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**BAY AREA TRANSPORTATION BLUEPRINT
FOR THE 21ST CENTURY
PROJECT NOTEBOOK
OF CANDIDATE PROJECTS
REVISED JUNE 2000**



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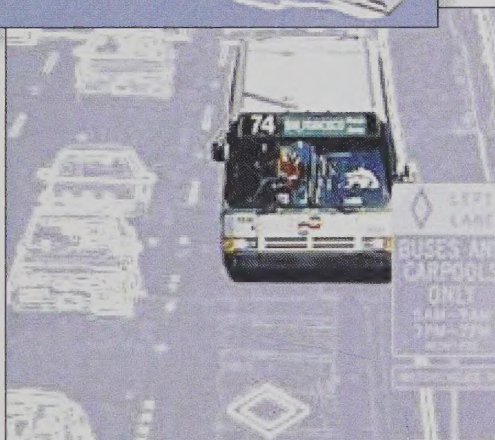


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BAY AREA TRANSPORTATION BLUEPRINT FOR THE 21ST CENTURY

PROJECT NOTEBOOK OF CANDIDATE PROJECTS

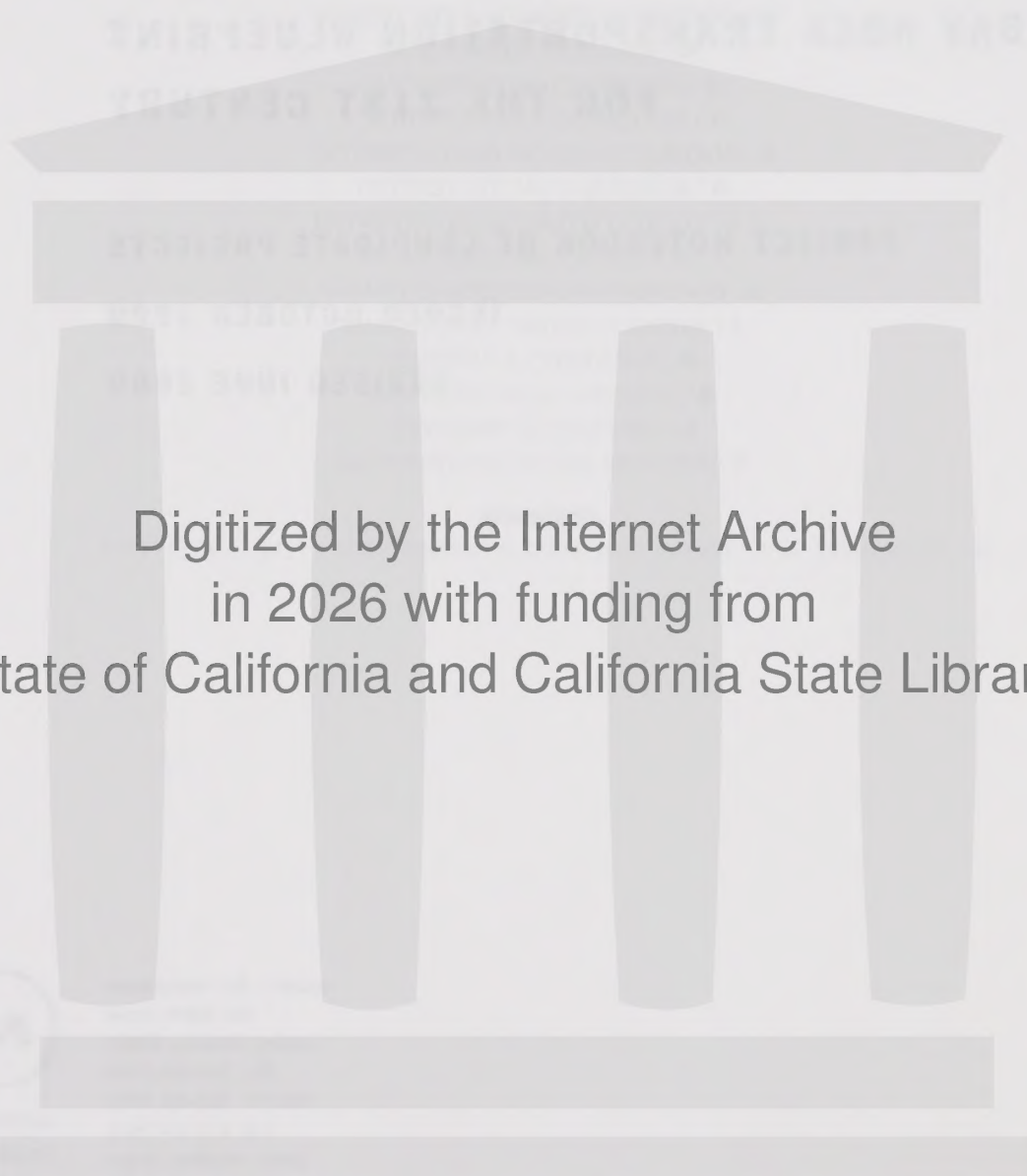
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Overview of the Blueprint Project Notebook

- Purpose**
- The purpose of the *Blueprint Project Notebook* is to provide a comprehensive and consistent set of information for all projects proposed to be included in the *Bay Area Transportation Blueprint for the 21st Century*.
- This is the second edition of the *Blueprint Project Notebook*. The *Notebook* was released in October 1999 and has been updated in this second edition to incorporate new or revised project information (primarily cost estimates) as well as comments received from our transportation partners and the public. As of the release of this latest version, we have not attempted to reconcile any of the cost information in this report with the Governor's proposed Traffic Congestion Relief Plan as this Plan is subject to further Legislative review.
- Organization**
- The *Notebook* is organized into sections representing Bay Area travel corridors—San Francisco Bay region as a whole, 14 specific travel corridors, and the external gateways to other regions outside the nine-county Bay Area. As in the 1998 *Regional Transportation Plan* (RTP), individual project proposals will be considered in a corridor context. Each section consists of a corridor map that identifies projects that can be mapped. A “fact sheet” for each candidate Blueprint project provides a project description, background, proposed operating scenario, estimated costs, and observations/issues specific to project implementation and impacts. This *Notebook* also includes Appendix A, which is a list of the candidate projects by corridor.
- Candidate Projects**
- MTC compiled a preliminary list of candidate projects from several sources prepared by MTC:
- *Regional Transportation Plan* (1998)
 - *Regional Rail Reconnaissance* (1999)
 - *San Francisco Bay Area Regional Ferry Plan Update* (1999)
 - *High-Occupancy Vehicle (HOV) Lane Master Plan Update* (1997)
- Additional sources include the Bay Area Council and Bay Area Economic Forum's *Bay Area Water Transit Initiative—Bay Area High-Speed Water Transit System for the 21st Century* (1999), new or proposed sales tax measures, and corridor studies.
- MTC also developed a list of regional and “other” projects—such as the system operation and maintenance, system management, seismic preparedness, life line transit, customer services, bicycle and pedestrian facilities, railroad right-of-way preservation, and MTC's Transportation for Livable Communities Program—based on the 1998 RTP shortfalls and Track 2 as well as an assessment of existing and projected regional needs for such programs/projects. In addition, MTC developed proposals for new/enhanced rapid bus system based on an assessment of how to cost effectively improve bus services to meet new travel demands, increase passenger convenience, and better utilize existing and planned HOV lanes.
- Additional candidate projects were added to the preliminary list based on input from the Bay Area congestion management agencies (CMAs) and regional transit agencies. These candidate projects were largely drawn from corridor management plans, countywide transportation plans, strategic transportation plans, county transit plans, proposed new sales tax measures and other local plans and capital improvement

programs. Moreover, comments on candidate projects received from the public at the first outreach meeting on June 16, 1999 and subsequent workshop series in November and December 1999 were considered and incorporated into the Blueprint where appropriate.

Estimated Blueprint capital costs total over \$33 billion. Operating costs for the Blueprint's candidate alternative trunk line systems will require at least \$820 million per year. These estimates only include definable Blueprint project costs; a number of projects are not yet well enough defined for costing purposes.

Outreach Efforts

Since January 1999, MTC has conducted stakeholder outreach on the Blueprint process with congestion management agencies and regional transit agencies. MTC staff has met with the technical staffs and boards of several CMAs and transit agencies to discuss the Blueprint process in general and the candidate project list in detail. Additionally, MTC staff has periodically reported on the Blueprint's progress to our Commission and to the Bay Area Partnership's Planning and Operations Committee (PPOC). Outreach to our partner agencies has been continuous throughout the Blueprint process. The work products from the public outreach efforts have been compiled into the *Blueprint Public Outreach Notebook* (April 2000).

The public outreach effort began with a press release announcing the public "kickoff" outreach meeting on June 16, 1999. At this meeting, staff presented the Blueprint concept to over 120 people in attendance and engaged them in a discussion about various Blueprint issues related to quality of life, congestion relief, and funding strategies via use of electronic voting. As a follow-up to this initial outreach meeting, MTC, in partnership with each CMA, held a series of nine public workshops in each county during November and December 1999. An additional meeting was conducted in the Tri-Valley in March 2000 at the request of the LAVTA Board. For each workshop, MTC staff gave a short presentation on the purpose, planning context, and preliminary evaluation results of the candidate Blueprint improvement packages, which was subsequently followed by a period of questions and comments by the public and local elected officials. About 500 people attended these ten workshops. In February 2000, two public opinion polls—one of the Bay Area Region and the second of its local elected officials—were conducted to assess public support on key Blueprint proposals and funding strategies.

MTC has provided up-to-date information about the Blueprint process on its Web site (www.mtc.ca.gov) and has published two special issues on the Blueprint in MTC's newsletter, *Transactions*.

Bay Area Travel Corridors

San Francisco Bay Region / A

Golden Gate Corridor / B

North Bay East-West Corridor / C

Napa Valley Subarea / D

Interstate 80 Corridor / E

State Route 4 Corridor / F

Interstate 680 North Corridor / G

Interstate 580 Corridor / H

Interstate 680 South Corridor / I

Interstate 880 Corridor / J

Fremont-South Bay Corridor / K

Santa Clara Valley Subarea / L

Peninsula Corridor / M

San Francisco Subarea / N

Transbay Corridors / O

Gateways to Other Regions / P



BAY AREA TRAVEL CORRIDORS

Golden Gate Corridor
 North Bay East-West Corridor
 Napa Valley Subarea
 Interstate 80 Corridor
 State Route 4 Corridor

Interstate 680 North Corridor
 Interstate 580 Corridor
 Interstate 680 South Corridor
 Interstate 880 Corridor
 Fremont-South Bay Corridor

Santa Clara Valley Subarea
 Peninsula Corridor
 San Francisco Subarea
 Transbay Corridors

Section A

**San
Francisco
Bay
Region**

San Francisco Bay Region

Regional and “Other” Projects

The San Francisco Bay Region section consists of fact sheets for Blueprint projects classified as either a regional or an “other” project. The Regional/“Other” projects are those that are deemed important and beneficial to the region as a whole but cannot be easily categorized into a specific travel corridor. Most importantly, these projects are essential to making the entire Blueprint “work”.

The regional and “other” projects are organized into the following categories:

- System Operation and Maintenance
- System Management
- Seismic Preparedness
- Life Line Transit
- Customer Services
- Bicycle and Pedestrian Facilities
- Railroad Right-of-Way Preservation
- Transportation for Livable Communities Program

San Francisco Bay Region

System Operation and Maintenance

- BART Car Replacement
- Muni Capital Program
- Strategic Replacement and Upgrade of the GGBHTD Information System
- Upgrade to Mare Island Ferry Maintenance Facility and Fuel Farm
- Transit Operating Shortfalls
- Local Street Pavement, Non Pavement, and Bridge Maintenance Shortfalls

System Management

- Freeway Traffic Operations Systems (TOS)
- MTS Arterial Signal System Upgrade
- Intelligent Transportation Systems (ITS) Regional Integration

Seismic Preparedness

- BART Seismic Retrofit Program
- Golden Gate Seismic Retrofit Phase II and III
- Local Bridge Seismic Strengthening
- Emergency "Contingency" Budget for Major Earthquake/Disaster

Life Line Transit

- 24 Hour Life Line Transit Services
- Transit Subsidies for Low Income Persons
- Transit Service Gap Improvements
- Enhanced Paratransit Services
- School Bus Service Program

Customer Services

- TransLink®
- TravInfo® (Traveler Information System)
- Freeway Service Patrol
- Call Box Program
- Regional Transit Trip Planning and Transit Information Web Page Systems
- Regional Rideshare Program

Bicycle and Pedestrian Facilities

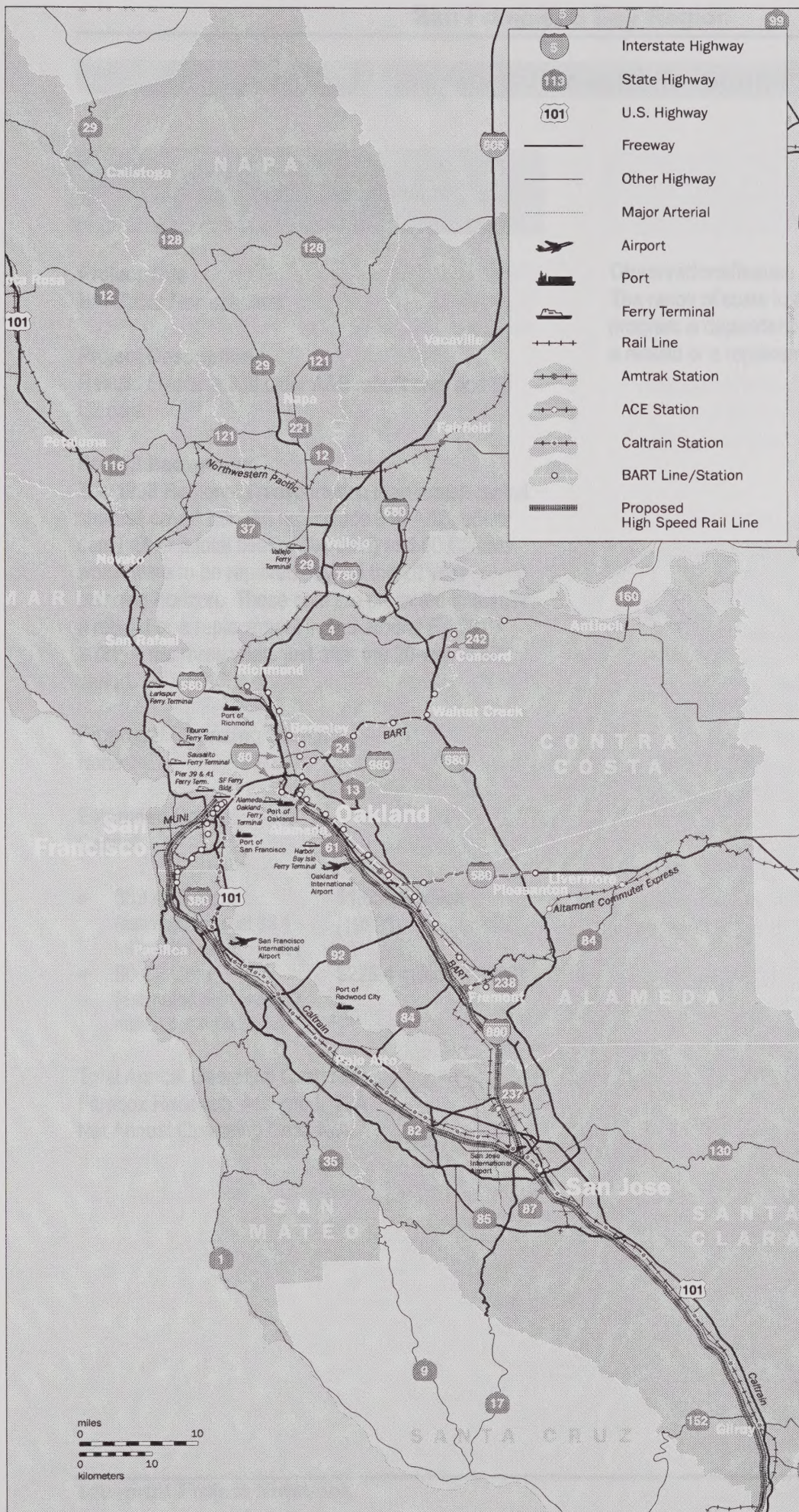
- San Francisco Bay Trail Gap Segments
- San Francisco Bay Trail Bridge Segments
- East Bay Regional Trail Gap Segments
- Local Bicycle and Pedestrian Facilities

Railroad Right-of-Way Preservation

- Railroad Right-of-Way Preservation

Transportation for Livable Communities

- Transportation for Livable Communities Program



Systems Operation and Maintenance

Transit Capital Requirements

Project Title

BART Car Replacement

Project Description

Rebuild / replace 339 older A&B rebuilt cars and 80 C2 cars.

Project Background

The 1998 Regional Transportation Plan transit capital shortfall calculation did not include 339 A&B rebuilt cars (out of a total fleet of 439 cars) and 80 C2 cars which were to be repaired beyond the 20 year planning horizon. These cars are projected to require a rebuild or a replacement in and around FY 2019-2021 — the three years just after the 20-year RTP period.

Proposed Operating Scenario

None

Estimated Costs

Capital:

- 339 A&B Cars \$1,050.9 billion
(estimated to cost \$3.1 million per car in 1999\$) (1999\$)
- 80 C2 Cars \$226.4 million (1999\$)
(estimated cost of \$2.83 million per rebuilt cost)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

The range of costs to complete this car replacement program is dependent upon a decision as to whether a rebuild or a replacement program is implemented.

Systems Operation and Maintenance

Transit Capital Requirements

Project Title

Muni Capital Program

Project Description

Implement capital projects identified in the updated Muni Capital Program that are beyond those identified in the 1998 Regional Transportation Plan (RTP).

Muni's Capital Program has been updated since the 1998 RTP to include the following additional capital projects:

- A full replacement of Muni's communications equipment
- Additional cable car rehabilitation
- Additional trolley overhead wire rehabilitation
- Rehabilitation of Muni's revenue center
- Additional rehabilitation/replacement of subway stations, train control, and other related capital projects.

Project Background

- This Blueprint "project" includes cost of certain projects in Muni's updated Capital Improvement Program.
- These additional capital costs are in addition to those included in the 1998 RTP.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$200 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

These additional rehabilitation projects serve to maintain existing Muni service.

Systems Operation and Maintenance

Transit Capital Requirements

Project Title

Strategic Replacement and Upgrade of the GGBHTD Information System

Project Description

As recommended in Strategic Plan for Information Systems, replace, upgrade and expand computer information systems to attain an appropriate level of information technology support for all business functions. This project would implement the recommended \$18.5 million improvements of the Strategic Plan.

Project Background

- Interim improvements are included in the 1999 S RTP for Golden Gate Transit but were reduced in scope due to funding constraints.
- Development of a ten year Strategic Plan for Information Systems is in progress and a preliminary implementation plan is available.
- The interim project would be implemented with existing staff and would consist of upgrades to existing systems to operate on Windows NT. The strategic plan project would require significant (\$11 million over 10 years) additional Information Technology staff resources.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$18.5 million (1999\$)

Total Annual Operating Cost: \$1.1 million (1999\$)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

The project represents 10 years of capital and operating costs for the Information Technology upgrade.

Systems Operation and Maintenance

Transit Capital Requirements

Project Title

Upgrade to Mare Island Ferry Maintenance Facility and Fuel Farm

Observations/Issues

Full service maintenance facility and fuel farm is needed.

Project Description

Upgrade Mare Island maintenance facility to a full service facility with a fuel farm to accommodate three or more boats.

Project Background

This project will be included in the Vallejo Transit/Baylink Ferry SRTP document update.

Proposed Operating Scenario

Current facilities include an interim maintenance facility and enough fuel for one day of operations. The proposed facility will include a full service maintenance facility for three boats and a fuel farm that will hold enough fuel for two weeks operations.

Estimated Costs

Capital: TBD

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Systems Operation and Maintenance

Transit Operations

Project Title

Transit Operating Shortfalls

Project Description

The financial estimates prepared for the 1998 Regional Transportation Plan (RTP) indicate that AC Transit will be able to cover 97.3% of its 20 year operating costs, Golden Gate Transit 95.7%, and MUNI 97.5%. The Blueprint would provide funding for the remaining operating shortfalls.

Project Background

The 1998 Regional Transportation Plan does not assume the availability of any new transit operating funds over the 20-year planning horizon.

Proposed Operating Scenario

Maintain existing level of service.

Estimated Costs

The projected 20-year cumulative operating shortfalls are as follows:

Operator	Operating Deficit
AC Transit	\$136.151 million
Golden Gate Transit	\$73.927 million
MUNI	<u>\$215.177 million</u>
Total	\$425.255 million

Observations/Issues

The transit operating shortfalls need to be addressed through additional local contributions or through new revenue sources.

Systems Operation and Maintenance

Project Title

Local Street Pavement, Non-Pavement, and Bridge Maintenance Shortfalls

Project Description

Fully fund local street pavement, non-pavement, and bridge maintenance shortfalls totaling \$5.6 billion as identified in the 1998 Regional Transportation Plan.

Project Background

- MTC estimates that of the \$6.6 billion of pavement maintenance needed over the next 20 years, only \$4.1 billion in revenues will be available, resulting in a shortfall of \$2.5 billion.
- The RTP gives priority to fully funding pavement shortfalls on local roads which are part of the Metropolitan Transportation System (MTS). The RTP includes \$347 million over 20 years for full funding of pavement maintenance shortfalls on MTS streets and roads. The RTP also assumes funding for 5% of the pavement maintenance shortfall on non-MTS streets and roads, which amounts to \$108 million over the 20 years.
- Non-pavement maintenance consists primarily of two areas: (1) lights/safety and (2) "other" such as maintenance/ construction work related to pedestrian/bike paths, storm drains, storm damage, and all other needs. MTC estimates that the non-pavement maintenance needs could be between \$633 million and \$4 billion over 20 years. The RTP has adopted a moderate number of \$2.4 billion for planning purposes.

- MTC estimates that bridge maintenance (reconstruction, rehabilitation, and rail replacement) to be \$1,076 million over the next 20 years. The two primary funding sources for local bridge maintenance are local funds and the federal Highway Bridge Replacement and Rehabilitation Program (HBRR). The most likely revenue estimates is \$324 million in revenues from the HBRR program over the next 20 years. The RTP financial analysis assumes an additional \$14 million over the 20 years for funding for local bridge rehabilitation work on local streets and roads.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

- Pavement Shortfall*: \$2.1 billion
- Non-Pavement Shortfall*: \$2.3 billion
- Local Bridge Shortfall*: \$1.2 billion

*After assignment of RTP Funds

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

The pavement, non-pavement, and local bridge maintenance shortfalls need to be addressed through additional local contributions or through new revenue sources.

System Management

Project Title

Freeway Traffic Operations Systems (TOS)

Project Description

Complete installation of field equipment for the TOS on Bay Area freeways.

Project Background

- Caltrans has been developing the TOS and Traffic Management Center (TMC) for several years, and has installed approximately half of the needed field equipment. An upgrade to Caltrans interim TMC will be completed in 1999, and the ultimate TMC software will be available in a few years, once it is fully tested and debugged in District 7.
- The TOS consists of CCTV cameras, loop detector monitoring stations, message signs, highway advisory radio, ramp meters, and a communication system that includes the TMC, hubs, and phone lines.
- The TOS also provides important data to the TravInfo Regional traveler information system.
- This project goes beyond the project included in the 1998 RTP. The Blueprint would provide additional funding and accelerate the delivery of this project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$188 million* (1999\$)

*The Blueprint "project" consists of \$94 million (1999\$) which will match \$94 million in future federal/state funds for this project.

Total Annual Operating Cost: TBD

(assumes Caltrans provides ongoing operation and maintenance costs through its operating budget)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The TOS enables detection and diagnosis of congestion (both recurring, commute-period congestion and incident-related congestion), and implementation of an appropriate response (dispatch emergency equipment, inform motorists via message signs and highway advisory radio, alter operation of ramp meters, etc).
- TOS-type projects have produced 10-20% improvement in freeway operations (e.g., increased average speed, reduced delay, lower accident rate) in other urban areas.
- This project would be implemented after Caltrans District 4 resolves recent technical issues in bringing TMC and existing field equipment on-line.

System Management

Project Title

MTS Arterial Signal System Upgrade

Project Description

Upgrade and interconnect signals on Metropolitan Transportation System arterials regionwide.

Project Background

- MTC estimates that 2000 of the Bay Area's 6000 traffic signals are on the Metropolitan Transportation System (MTS).
- This project entails replacing 2000 existing controllers with state-of-the-art controllers and interconnecting one-half of the 2000 controllers with fiber optics (assume one-quarter mile spacing between controllers).
- This project includes one new system detector for every 4 signals, and 20 city Traffic Management Centers (TMC).
- Other "smart corridor" field equipment, such as surveillance camera's and message signs, is not assumed to be part of this project.
- This project goes beyond the project included in the 1998 RTP. The Blueprint would provide additional funding and accelerate the delivery of this project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$29.56 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The operation of traffic signal controllers as part of a "smart corridor" is an effective means of managing traffic flows during both commute peaks and incidents. These systems typically reduce travel time by 10%, and reduce delay by over 20%.
- Controller upgrades and center-to-center communication links are necessary to implement "smart corridor" projects.
- MTC assumed that high speed data exchange for center-to-center operation requires 250 mile fiber optic backbone, and that private sector will provide half of needed backbone through negotiations over permits to build fiber optic networks. With this assumption, fiber optic backbone is still largest portion of total cost (\$13.2 million).

System Management

Project Title

Intelligent Transportation Systems (ITS) Regional Integration

Project Description

Support integrated deployment of Intelligent Transportation Systems (ITS) projects in the region to reduce costs, increase effectiveness, and provide better services through appropriate uses of new technologies.

Project Background

- MTC and its partners have been developing a variety of technology-based projects for some time, including systems for freeway management, arterial signals, transit fleet management, traveler information, transit fare payment, and others.
- There have been limited efforts to create linkages among related projects, but not within an integrated program plan.
- There has not been a coordinated effort to evaluate gaps in computer and communications systems among ITS projects, and implement projects to fill those gaps to achieve improvements in system management.
- TEA-21 established the requirement that all federal-aid ITS projects need to conform to national ITS architecture and standards. Regulations to implement that mandate are expected in early 2000.
- MTC is commencing work on a regional ITS strategic plan and technical architecture.

Proposed Operating Scenario

- Complete and maintain a regional ITS strategic plan, coordinated with the overall Blueprint, RTP, and programming activities.
- Complete and maintain a regional ITS architecture to provide technical guidance to ITS project sponsors.
- Identify and implement projects that are needed to close priority gaps identified in the regional ITS strategic plan, including: (1) core communications links, (2) software interfaces between systems, and (3) incorporation of national data and interface protocol standards.

- Provide technical support to project partners in project design and implementation.
- Ensure integration of Bay Area ITS activities with emerging state-wide architecture and program.

Estimated Costs

Capital: TBD

Total Annual Operating Cost: TBD

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Individual ITS projects may be successfully implemented in isolation, but significant Metropolitan Transportation System (MTS) management improvements may be achieved by ensuring appropriate integration across some of these projects.
- There may be needs for communications links or software development that do not fall within the scope of particular projects or within the jurisdiction of project sponsors. Multi-agency regional projects may need to be developed to fill these gaps.
- Significant training and technical support functions need to be developed for the long-term to enable partner agencies to develop, operate, maintain, expand, and, eventually, replace these high-technology systems. This can be most cost-effectively done in a regional program.

Seismic Preparedness

Project Title

BART Seismic Retrofit Program

Project Description

Seismically retrofit BART system which is to be implemented in five segments, prioritized by need and funding availability.

- Segment 1: Caltrans Local Seismic Retrofit Program
- Segment 2: Lifeline Program
- Segment 3: Additional Critical Aerial Structures and Stations Program
- Segment 4: Aerial Structures and Aerial, At-Grade and Underground Stations Program
- Segment 5: All Other BART Facilities Program

Project Background

- The original system is designed to seismic performance levels well above the standards of the time.
- Only hours after the Loma Prieta earthquake, the BART system was in service and provided the Bay Area with a critical transit lifeline.
- The current BART policy is to have a system which could withstand a Maximum Credible Earthquake (MCE) and to return service with minimal delay after such event.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$800 million (1999\$)

(Approximately \$230 million was included in the 1998 RTP but this amount is roughly equivalent to the BART capital shortfall, hence has been included as a part of the Blueprint seismic retrofit project.)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- According to the U.S. Geological Society Working Group on California Earthquake Probabilities in 1990, there is a one in four probability that a magnitude 7 earthquake will occur at the two Hayward fault segments and the Peninsula segment of the San Andreas fault within the next 30 years.
- Seismic design has advanced considerably in the last decade, incorporating what has been learned from the experience of recent large earthquakes.
- New techniques have been developed for retrofitting large existing structures, like BART stations and aerial trackways, to more securely withstand major seismic forces.
- The five segment retrofit program would implement seismic improvements throughout the system.

Seismic Preparedness

Project Title

Golden Gate Seismic Retrofit – Phases II and III

Project Description

Retrofit the bridge, strengthening it to withstand a maximum creditable earthquake of 8.3 on San Andrea Fault, in three construction phases. Phase I is north anchorage. Phase II includes implementation of seismic retrofit measures to the south viaduct, south anchorage housing, Fort Point Arch, and pylons S1 and S2. Phase III includes implementation of seismic retrofit measures to the suspension bridge, south pier and fender, north pier, north anchorage, and pylon N1.

Project Background

- The project is partially funded in Track 1 of the 1998 RTP (Phases 1 and 2 are funded.) The Blueprint would accelerate the delivery of this project.
- Project will be completed in three phases. Phase I is fully funded by a reserve created from the increase in bridge toll to \$3.00 in 1991 and is scheduled to be completed by the end of FY 1999/00.
- Known project funding to come from a variety of sources including bridge tolls and Federal TEA-21 earmarks.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

Construction Costs (1998\$):

Phase I:	\$69 million (fully funded with District reserves)
Phase II:	\$120 million (fully funded with TEA-21 funds and District bonds)
Phase III:	\$108 million (\$11.6 TEA-21 bridge grant)
Total cost:	\$297 million
Shortfall:	\$96.4 million

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

Seismic retrofit is the top priority for the Bridge District.

Seismic Preparedness

Project Title

Local Bridge Seismic Strengthening

Observations/Issues

The local bridge seismic strengthening shortfalls need to be addressed through additional local contributions or through new revenue sources.

Project Description

Based on a Caltrans biannual inspection of the 2,040 local bridges in the Bay Area, 12 percent require reconstruction; 45 percent need rehabilitation; 13 percent need seismic retrofitting; and 40 percent have substandard barrier rails.

Project Background

- Seismic Retrofit Costs: Senate Bill 36X required local agencies to implement seismic retrofit of local bridges to correct "serious" seismic dangers. All local bridges are screened based on a series of judgment factors – such as the age of the bridge, number of spans, as-built drawings, area of seismic activity, etc. The costs are paid by the State of California. The bridges projected to require "mandatory seismic retrofit" (268) receive first priority for money. The work receives priority over regular bridge repair projects. The revenue necessary for seismic upgrades will delay other types of bridge repairs, increasing shortfalls over the 20-year period.
- The estimated shortfall for local bridges is \$181 million. A portion of this shortfall in the RTP is funded with federal Highway Bridge Replacement and Rehabilitation funds and flexible federal TEA-21 funds.

Estimated Costs

Capital: \$144 million*

*After assignment of RTP funds

Total Annual Operating Cost:

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Seismic Preparedness

Project Title

Emergency "Contingency" Budget for Major Earthquake / Disaster

Project Description

The Blueprint "project" consists of a contingency budget that will cover transit "operating" costs for services and activities required to respond to a major earthquake above and beyond "normal" operating costs. Funds can also be used to cover local matching requirements for state and federal disaster fund programs or serve as a "loan" pool for agencies experiencing unanticipated cash-flow situations. These funds would be deposited in an "escrow" account to be used when needed.

Operating Expenses

- Expanded hours for transit operations and Freeway Service Patrols
- Extended feeder services
- Increased ferry services
- New shuttle services
- Increased Freeway Traffic Operations System (TOS) operations and maintenance

Capital Expenses

- Immediate repairs to transit facilities in order to operate
- Repaving airport runways, parking lots, access roads
- Structure damages to ferry docking facilities
- HOV lane striping
- Track alignments and repairs
- Additional equipment needs (train cars, buses, vessels, etc.)

Other "Eligible" Expenses

- Lost toll revenues on state bridges
- Temporary "loan" to provide local match to state/federal disaster programs
- Temporary "loan" to agencies experiencing cash-flow problems
- Possible costs to rent facilities for joint briefings, FEMA workshops, etc.

Project Background

- Builds on the Bay Area Partnership's emergency Trans Response Plan (TRP).
- Recognizes the importance of transportation response as vital to economic recovery in the Bay Area.

Proposed Operating Scenario

To be used to respond to immediate needs following a major earthquake.

Estimated Costs

(for one month only)

Capital: \$9 million (1999\$) for immediate needs; additional funds in an amount to be determined for recovery needs and to provide "loan" for local matching funds

Operations: \$17 million (1999\$) (based on Loma Prieta claims plus estimated "new" services/activities)

Observations/Issues

- According to the U.S. Geological Society Working Group on California Earthquake Probabilities in 1990, there is a one in four probability that a magnitude 7 earthquake will occur at the two Hayward fault segments and the Peninsula segment of the San Andreas fault within the next 30 years.
- Estimates are based on actual emergency operating expenses incurred by operators for one month following Loma Prieta earthquake (which was mild in comparison to anticipated North Hayward fault).
- Estimates exclude repairs or replacement of major transit facilities (bus maintenance buildings, communication/ radio/ dispatch facilities, non-urgent damages to communication towers, etc.) which are assumed to be "recovery" activities.
- Estimates to be developed for local match requirements to state/federal grants.

Seismic Preparedness

Draft Emergency "Contingency" Budget for Major Earthquake / Disaster

Operator	Service/Activity for one month	Operating	Capital
AC Transit	New Bridge services Extended Feeder Services Structure Damage	\$3,195,745	\$639,050
BART	Extended Service Hours Repairs to Damages	0	\$2,684,010
Caltrain	Extended Service Hours	\$90,745	\$31,953
CCCTA	Supplemental Feeders & Shuttles	\$113,495	
GGBHTD	Additional Bus & Ferry Services Structure Damage	\$112,728	\$528,494
SF Muni	Supplemental Services/Shuttles Trolley Overhead	\$93,749	\$1,278,100
Samtrans	Supplemental Feeder Services Capital	\$131,044	\$326,657
SCVTA	Expanded Santa Cruz Services Capital	\$67,739	\$69,912
Vallejo	Additional Bus & Ferry Services Traffic Control @ terminal Parking Improvements	\$35,787	\$76,686
WCCCTA	Ferry Feeder Services	\$3,834	
Port of SF, Oakland, Richmond, Berkeley	Ferry Dock facilities/ Parking New/Expanded Ferry Services	\$815,236	\$1,533,720
Capital Corridor	Expanded Service (add one add'l roundtrip)	\$572,222	
Altamont Commuter Express (ACE)	Expanded Service Hours (one add'l commute train)	\$191,666	
Caltrans/CHP	Expanded HOV enforcement Increased Towtruck Service HOV lane striping	\$81,159 \$103,526	\$1,821,293
Freeway Service Patrols	Extended hours: 4 add'l hours per day using 30 trucks for one month	\$151,200	

Seismic Preparedness

Operator	Service/Activity for one month	Operating	Capital
RIDES	Expanded Operating Hours	\$83,077	
Solano County Inter-city BART express.	Expanded Operating Hours	\$151,583	
TravInfo	Expanded Operating Hours to cover weekends for one month	\$19,000	
New/Expanded Joint Fare Instruments	New instruments likely to be introduced to maximize patron convenience (pending TransLink®)	TBD	
All operators	Additional Public Information	TBD	
MTC BATA	Lost Toll revenues for bridges	\$11,082,387	
Airports, seaports	Repairs to runways, docking facilities are likely		TBD
TOTALS		\$17,095,428	\$8,989,874

Assumptions:

1. Same costs for operating and capital as required following Loma Prieta earthquake, but escalated from '89 to '99 dollars for one month (inflation factor used is 1.2781) although some capital costs were one-time expenses (ie. Paving parking lots, repairs)
2. Newly identified operators or activities (ACE, Capital Corridor, TravInfo, FSP, Callbox services to be increased) are those that have been introduced since Loma Prieta earthquake occurred. Only operating estimates are provided.
3. Airport and seaport emergency repairs are likely but estimates are unknown at this time.

Other types of expenses to cover:

Roads repaving due to liquefaction and/or landslides. ABAG's research with Caltrans identified that highway pavement repairs after Loma Prieta totaled \$23,636,000 for 88.6 kilometers of roadway. This is approximately \$266,772 per kilometer (of paving state highways due to liquefaction/landslides). ABAG could not identify a parallel amount for repaving of county arterials because there was no centralized summary of roadway repaving done by public works depts.

Life Line Transit

Project Title

24 Hour Life Line Transit Services

Project Description

Provide 24-hour transit services in most urban and transit-dependent areas.

Project Background

- Alameda County Welfare-to-Work Transportation Planning Project has identified eight county corridors where 24-hour services should be considered for implementation.
- MUNI already operates "Owl" services (from 1 to 5 AM) for an equivalent of 13 regular routes. No other counties currently have 24-hour services.

Proposed Operating Scenario

- Alameda County corridors are: International/E 14th, San Pablo, MacArthur, Telegraph/Shattuck/ University, Hegenberger/73rd Ave, Hesperian/Union City Blvd, Fremont Blvd, and I-580 in Livermore/Pleasanton/Dublin. Existing services currently operate 18-20 hours per day (AC Transit only), thus expanded service would require additional 4-6 service hours.
- Other logical corridors would be along El Camino on the Peninsula and in South Bay, US101 Corridor between Gilroy, San Jose, Palo Alto and San Francisco Airport, Transbay (AC Transit and/or BART), US101 Corridor between San Francisco, San Rafael and Santa Rosa, I-680 Corridor between Pleasanton, Walnut Creek and Concord.

- In addition to trunk line transit routes, enhanced short-range services to home neighborhoods and work centers in the most urban areas could be needed, such as expanded paratransit or taxi services.

Estimated Costs

See Page A-17.

Observations/Issues

Life line transit services are only at conceptual definition stage at present time.

Life Line Transit

Improved Transportation for Transit Dependent People ("Lifeline Services")

Gaps In Existing Network		Operating Cost	Capital Cost	Total Cost
County	Route Description			
Alameda	Extend 4 AC routes	1,000,000	1,280,000	2,280,000
	Naval Air Station - downtown shuttle	125,000	119,000	244,000
	Feeder services to employment sites (AC & LAVTA)	4,000,000	1,280,000	5,280,000
San Francisco	Bayview/Hunters Pt. - downtown	540,000	640,000	1,180,000
	Treasure Island - downtown	540,000	640,000	1,180,000
	Bayview/Hunters Pt. circulator	375,000	0	375,000
Contra Costa	Shuttles serving low income neighborhoods (East County)	550,000	0	550,000
Napa	TBD			
Santa Clara	TBD			
Regional Services				
	<u>Richmond-Marin County</u>			
	Route 40 service improvements	425,000	320,000	745,000
	<u>SF - San Mateo</u>			
	Bayview/Hunters Pt. - SFO	175,000	0	175,000
	<u>Other</u>			
	Treasure Island - East Bay	600,000	640,000	1,240,000
	<u>Alameda - Santa Clara - TBD</u>			
SUB-TOTAL		8,330,000	4,919,000	13,249,000
Extending Service Hours & Adding Service Frequencies				
Alameda	Add "owl" service on 11 routes (AC Transit)	1,204,500	0	1,204,500
San Francisco	Add "owl" service on 7 routes (MUNI)	785,000	0	785,000
Contra Costa	Expand to 24 hours on 5 routes (CCCTA)	1,100,000	0	1,100,000
	Add Sunday services to 5 routes (CCCTA)	425,000	0	425,000
	Extend hours on express bus (ECCTA)	500,000	640,000	1,140,000
	Add weekend service to shuttle/express bus (ECCTA)	2,120,000	0	2,120,000
	Extend hours for all VINE routes	320,000	0	320,000
Napa	Add service frequencies on 2 VINE routes	220,000	640,000	860,000
Santa Clara	Add "owl" service on 7 routes (VTA)	1,800,000	0	1,800,000
Regional	TBD	4,000,000	1,280,000	5,280,000
SUB-TOTAL		12,474,500	2,560,000	15,034,500
Regional Guaranteed Ride Home				
All 9 counties		450,000	0	450,000
Increased Paratransit Services				
Regional ADA complement to above service improvements		925,000	450,000	1,375,000
Increased services to accommodate growing elderly population		2,000,000	1,000,000	3,000,000
SUB-TOTAL		2,925,000	1,450,000	4,375,000
TOTAL		24,179,500	8,929,000	33,108,500

Life Line Transit

Project Title

Transit Subsidies for Low Income Persons

Estimated Costs

See Page A-17.

Project Description

Provide free or reduced fare transit passes for low income residents of the nine Bay Area counties.

Observations/Issues

- In certain counties the majority of welfare recipients and low income individuals are transit dependent.
- Many job opportunities (and available child care) require traveling outside a person's home neighborhood.
- Many job opportunities require transfers among transit operators.
- Many job opportunities are part-time or swing shift which increases the proportion of a person's income that is needed for transportation.
- There are opportunities for financial partnerships with county human services agencies and community based organizations who are looking for a mechanism to make transit services more economically accessible to low income persons.

Project Background

- MTC's Welfare to Work Transportation Planning efforts have confirmed that the cost of using public transportation can be significant for low income individuals, particularly those who are working split or short shifts, making long trips, transferring between systems or transporting children who must pay fares. In some areas, the cost of transit services may be forcing individuals to limit their job searches to nearby areas and to times of day that transit is available. This may preclude employment in certain sectors.
- The funding for low income subsidies must come from new sources of funding in order to avoid a negative affect on existing transit service levels.
- TransLink® is being designed to provide a mechanism to account for special subsidies for transit services throughout the region.

Proposed Operating Scenario

- With a dedicated source of funding, eligibility for fare subsidies can be administered through existing programs that oversee benefits for low income persons. Under the TransLink® universal fare card program, a person receiving the subsidy would have the value of that subsidy added to their TransLink® card by the sponsoring agency, or the individual's trip could be deducted at a lower fare, charged back to the sponsoring agency, and returned as a full value fare to the transit agency through the TransLink® central clearinghouse.

Life Line Transit

Project Title

Transit Service Gap Improvements

Project Description

Develop, fund and implement program of improvements in fixed route and flexible public transit services to close gaps between low income neighborhoods and key employment clusters.

Project Background

- The lack of transit to access key employment sites in a 24-hour economy has been identified in MTC-sponsored welfare to work transportation plans. Specific transit improvements have been proposed in some counties. These are to be supplemented by MTC analyses conducted for this Blueprint.
- In the Bay Area's regional economy, many job opportunities require individuals to cross jurisdictional boundaries.
- There is a lack of transit service in some areas of job growth.

Proposed Operating Scenario

See Page A-17.

Estimated Costs

See Page A-17.

Observations/Issues

MTC GIS-based analyses show significant service gaps to key employment sites at times of day and in certain corridors where there is insufficient access from trunk line transit services to job sites.

Life Line Transit

Project Title

Enhanced Paratransit Services

strides to coordinate paratransit services and has adopted interagency service guidelines which will require new funding to implement fully.

Project Description

- Provide enhanced paratransit service beyond that legally required by ADA.
- Provide and promote enhanced coordination of paratransit services between operators serving ADA-eligible individuals and with other services provided by social services programs.
- Improve paratransit travel across service boundaries by (1) making capital improvements at regional paratransit transfer points; (2) streamlining the process for persons to schedule inter-agency paratransit trips; and (3) implementing a single regional paratransit fare payment system in coordination with TransLink®.

Estimated Costs

See Page A-17.

Observations/Issues

The primary challenge for transit operators responsible for the provision of paratransit services is to provide those services in a cost-effective manner. MTC is providing the region's operators with technical assistance to help them identify and test service strategies for operating more efficiently. Long-term operation of these strategies will require new funding, although at presumably less expense than the expected cost of expanded demand-response paratransit services.

Project Background

- Within the Bay Area, 21 public transit operators are responsible for the provision of complementary paratransit services as required by the ADA.
- Demand for paratransit services, both for ADA eligible persons and for others, has caused an increase in paratransit costs from \$20 million in 1995 to over \$60 million in 1998. Without new revenues to offset these costs, transit operating budgets have had to support increased amounts, which has limited other transit service improvements.
- MTC's role has been to facilitate coordination of services, especially where such coordination enhances access of the services by the user.
- With the aging of the population, demand for paratransit service is expected to outpace the region's ability to fund service expansion, especially for those individuals who do not meet ADA eligibility requirements but who nonetheless need a safety net of transportation services when they are no longer able to transport themselves.
- The region, through partnership of the transit agencies and MTC, has made significant

Life Line Transit

Project Title

School Bus Service Program

Project Description

Provide school bus service as a transportation link for parents transitioning from welfare to work and to supplement public transit where needed.

Services to be provided could include:

- Access to school for children of parents transitioning from welfare to work.
- Matching funds to school districts for capital and operating costs.
- Fare discounts for students riding public transportation to school.

Project Background

- With the implementation of Proposition 13, many school districts found school bus service to be cost prohibitive and scaled back bus service
- School districts that have maintained bus service transport 6% to 21% of their total student population. Provision of service varies depending on each district's ability to fund school bus programs.
- When schools are in session, parents transporting children to and from school contribute to peak period congestion on local roads.
- Public bus systems may not have the resources to adequately provide service to schools within their service area.

Proposed Operating Scenario

N/A

Estimated Costs

There are models for cost sharing of school transportation costs between parents, schools, and other funding sources such as local transportation taxes.

Capital: TDB if procurement of school buses is needed

Total Annual Operating Cost: \$24 million (includes leases/operating costs)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: NA

Observations/Issues

- There are 955,843 children enrolled in grades K-12 throughout the Bay Area. Of those, only 105,664 are currently using school buses to get to school (California Department of Education, 1997).
- Many transit operators are unable to cost effectively serve this travel market.
- New California driving laws will reduce carpooling to high schools due to restrictions on new drivers transporting children between the ages of 16 to 18.

Customer Services

Project Title

TransLink®

Project Description

Design, build, operate and maintain a universal transit card system that will enable transit riders to access any transit service in the region using a single ticket. TransLink® will be based on a dual-interface smart card, implement a central clearinghouse for financial settlement and reporting, and provide a widely accessible distribution and customer service system.

Project Background

- Ten-year contract awarded to Motorola to design, build, operate and maintain TransLink® program
- Design phase of project to be completed in November 2000
- Demonstration phase to begin revenue service in March 2001
- Full regional implementation to begin in October 2001
- This project goes beyond the project included in the 1998 RTP. The Blueprint would provide funding and accelerate the delivery of this project.

Current Operating Scenario

- Deploy card reading equipment at each station and on every bus and light rail vehicle (where required) in the Bay Area.
- Implement a computer network capable of capturing and managing transaction data generated by the system.
- Fund operation of customer services that include: card distribution and re-load, toll-free customer phone support (both automated and live operator), and internet access and support.
- Fund transit operator support services that include: depot maintenance, on-going training programs, operations and maintenance help desk, and on-site maintenance.

- Implement programs which provide greater access for persons who are transit dependent and those who are subsidized by their employers.

Estimated Costs

Capital:

Replace equipment: TBD

Paratransit: \$14 million

Total Annual Operating Cost:

Paratransit: \$250,000

Observations/Issues

- Provide funding for capital replacement of equipment and computer systems, beginning in year 7-10 of the program.
- Implement TransLink® on the region's paratransit systems; the current budget provides for the region's fixed route fleet.

Customer Services

Project Title

TravInfo®, The Bay Area's Advanced Traveler Information System

Project Description

Provide enhancements and improvements to existing and proposed future TravInfo® operations and infrastructure.

Project Background

- Operated as federally-funded field operational test from September 1996 to September 1998.
- In a transition phase from October 1998 to June 2000.
- System Manager will take over operations in July 2000 under a 5 year contract.

Proposed Operating Scenario

- Deploy and operate a complete data collection and interface system to allow for the dissemination of substantially more real time traffic and transit information. (To be accomplished in part through expansion and improvement of the TOS; additional investment is needed to improve data fusion to serve traveler information needs.
- Fund services for toll-free access number for TravInfo® information
- Develop speech recognition system to provide a better user interface
- Fund live operators as necessary to provide information beyond what is provided by the automated system

Estimated Costs

Capital: TBD for replacement

Total Annual Operating Cost:

Additional \$2 million/year (beyond \$4.8 million/year in 1998 RTP) to improve data collection and fusion, toll free phone services and live operator assistance

Observations/Issues

These enhancements and improvements will make TravInfo® more useful to Bay Area travelers both by improving the data available, thus making decision-making easier and more efficient, and by improving the methods in which travelers receive access to the information.

Customer Services

Project Title

Freeway Service Patrol (FSP)

Project Description

Provide enhancements and improvements to existing and proposed future Freeway Service Patrol (FSP) operations and infrastructure.

Project Background

- FSP is a partnership program between Caltrans, the California Highway Patrol and the MTC SAFE (Metropolitan Transportation Commission Service Authority for Freeways and Expressways).
- FSP is the Bay Area's freeway incident removal program in operation since 1992.
- There are currently 28 beats that cover 332 centerline miles with 59 tow trucks.
- Approximately 100,000 incidents are cleared each year providing a substantial relief in congestion, improvement in air quality and safety benefits.
- This project goes beyond the project included in the 1998 RTP. The Blueprint would provide funding and accelerate the delivery of this project.

Proposed Operating Scenario

- Provide fleet management and dispatch operations in Oakland Transportation Management Center (TMC).
- Add 8 to 12 additional freeway segments (beats) to cover the Bay Area network during commute hours.
- Upgrade telecommunications system.

Estimated Costs

Capital: \$1.25 million (1999\$)

Total Annual Operating Cost: \$400,000 for one-time consulting costs plus \$2.05 million annual operating cost (1999\$)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Currently, FSP dispatchers work out of the CHP offices in Vallejo. Dispatching and fleet management operations logically should take place at the TMC in Oakland.
- While FSP covers the most congested freeway segments, recent studies show that FSP is or will be justified with eight to twelve additional segments.
- The communication system is composed of voice, data and AVL (automatic vehicle location) components. The system hardware and software should be assessed and upgraded as needed every five to seven years.
- Currently, FSP and Call Box networks are physically and functionally separated. Integration efforts should be accomplished to co-locate these functions and adhere better communication with the Transportation Management Center and the Private Call Answering Center.

Customer Services

Project Title

Call Box Program

Project Description

Operate a motorist aid program that provides motorists with a direct telephone connection to a call answering center capable of contacting the appropriate assistance—California Highway Patrol (CHP), Freeway Service Patrol (FSP), or a private tow service.

Project Background

- The Call Box Program is a partnership between the MTC SAFE (Metropolitan Transportation Commission Service Authority for Freeways and Expressways), the CHP, and Caltrans.
- The MTC SAFE installed yellow call boxes on roadsides in the nine county Bay Area in 1989.
- Over 14,000 calls are placed each month using 3,500 MTC SAFE call boxes on freeway roadsides.
- This project goes beyond the 1998 RTP project. The Blueprint would provide funding and accelerate the delivery of this project.

Proposed Operating Scenario

- Assist Caltrans in upgrading the call boxes on bridges to MTC SAFE call boxes.
- Assist in implementation of an additional dial in number to CHP (e.g., 511) to separate true 911 emergencies from incident reports from motorists using cellular phones.
- Assist Caltrans and CHP in improving the use of call boxes for freeway incident management through expansion of call box capabilities (e.g., traffic flow monitoring, CCTV surveillance transmission) and through further integration of call box operations into the Caltrans Transportation Management Center (TMC).
- Upgrade call box network from an analog system to a digital system.

Estimated Costs

Capital: TBD

Total Annual Operating Cost: TBD

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Caltrans owns and operates the current call boxes on bridges. These call boxes do not provide two-way communication, and they have deteriorated and are unreliable.
- The CHP Communication Center is overwhelmed with cellular 911 calls. A separate contact number would allow motorists to notify the CHP of incidents on the highway while keeping the 911 emergency lines free for true emergencies. Integration of this system could also support or replace the loop system for incident detection now used by Caltrans in the TMC.
- Currently, FSP and call box networks are physically and functionally separated. Integration efforts are needed to co-locate these functions and achieve better communication with the TMC and the private Call Answering Center. Additional traffic management benefits can be realized by expanding the functionality of the call boxes to include video and traffic flow surveillance.
- The call box system utilizes an analog cellular network. As better service becomes available on digital networks, the MTC SAFE will need to address upgrading to a digital cellular phone system in the call boxes.

Customer Services

Project Title

Regional Transit Trip Planning and Transit Information Web Page Systems

Project Description

- Upgrade and maintain the regional transit trip planning (TranStar) system and transit information web page.
- Extend the use of the TranStar system to all transit operators in the region.
- Develop and maintain the TranStar data in a manner that it can be used for other applications and purposes.

Project Background

- MTC in conjunction with the region's transit operators operate a regional transit information web page, which includes route, schedule and fare information for all transit systems in the region on one web site.
- MTC and the region's transit agencies are currently developing a automated transit trip planning system (Transtar) that will provide information and itineraries for any transit trip in the region. The system will be made widely available to the public through the transit agencies' telephone information centers and on the Internet. This service responds to a key concern that existing transit information is not well coordinated and difficult to access, thereby limiting transit use.
- The TranStar system will greatly enhance the ability of transit operators to provide accurate information about transit service throughout the region.
- Because access to the TranStar trip planning system will be integrated into the existing transit information web page, the system will provide an alternative to congested telephone lines and be available when information centers are closed.
- This project goes beyond the 1998 RTP project. The Blueprint would provide funding and accelerate the delivery of this project.

Proposed Operating Scenario

- MTC will manage the TranStar system and the communication network. This includes responsibility for system maintenance and development and oversight for data entry and maintenance.
- Each transit operators is responsible for its own transit information contained in TranStar. Each operator provides data such as current schedule, fare and bus stop information in appropriate formats for uploading into TranStar. Transit Operators are also responsible for verifying that the data, after entered into TranStar, is valid and accurate.

Estimated Costs

Total Annual Operating Cost: \$2.01 million (1999\$).

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

The first four years of project implementation are funded. The remaining 16 years covered by the Blueprint would include:

- annual costs for transit data collection (schedules, fares, routes, etc.) and updates;
- hardware and software maintenance, upgrade and replacement;
- frame relay communication system maintenance;
- web page maintenance and development

Customer Services**Project Title**

Regional Rideshare Program

Project Description

Increase the mobility of the Bay Area public by providing a regional information broker for transportation alternatives, including marketing and outreach to employers and the public. Provide ridematching services to facilitate the formation of carpools and vanpools, information on public transit and other options, and direct assistance to employers and individuals to access transportation alternatives.

Project Background

- The region's rideshare program has been in existence for over 20 years. MTC, in financial partnership with the county CMAA, assumed responsibility for Regional Rideshare Program from Caltrans in 1995.
- Ridematching database contains approximately 15,000 active records; about 900 vanpools are in operation in the Bay Area; several regional campaigns exist to promote transportation alternatives to the single occupancy vehicle; Commuter Check program encourages employers to provide tax-free transit as an employee benefit.
- Program has effectively provided information services during regional emergencies (e.g. BART strike, natural disaster) and in response to disruptions in major travel corridors.
- This project goes beyond the 1998 RTP project. The Blueprint would provide funding and accelerate the delivery of this project.

Proposed Operating Scenario

- Maintain current service levels through a single regional contract managed by MTC.
- Take advantage of new technologies by integrating GIS capabilities into the ridematching system, improving Internet access and developing links to other regional customer service projects such as the Transtar transit trip planning system and TravInfo. This will improve information services available to the public.

- Further expansion of the Commuter Check program, a subsidized van purchase program, or other incentives to promote shared-ride transportation are possibilities.
- To improve access to rideshare services by low income and non-English speaking persons, the rideshare program is expanding its role as an information broker for social services programs (including CalWORKs), workforce development programs and child care referral systems. Additional resources to provide multi-lingual services and expand live-operator assistance will be needed. County social services programs could share with the program costs.
- Develop, fund and implement a Guaranteed Ride Home (GRH) program for the nine Bay Area counties to encourage transit use and ridesharing, and to provide a "safety net" for those who are transit dependent.

Estimated Costs

(1998 RTP includes \$2.8 million/year)

Capital:

- Update ridematching system: TBD
- Start-up revolving fund for vanpool formation: TBD
- Standard capital replacement over 20-year period: TBD

Increase Annual Operating Cost:

- Basic operations: \$1.5 million/year
- Regional Guaranteed Ride Home Program: \$1 million/year

Bicycle and Pedestrian Facilities

Project Title

San Francisco Bay Trail Gap Segments

Project Description

Construct remaining 170 miles gap segments of the Bay Trail (not including bridge crossings). Some notable gap segments are listed below—not all gap segments are shown.

Project Background

- State Senate Bill 100 (Lockyer), passed in 1987, advanced the concept of a “Ring around the Bay” and directed ABAG to develop an alignment for the Bay Trail as well as funding and implementation plans.
- Bay Trail Plan was adopted in 1989.
- Implementation of the Bay Trail is being coordinated by the Bay Trail Project, a nonprofit organization housed at ABAG.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$59.19 million (total) (1999\$)

- \$25.19 million (for gap segments listed)
- \$34.0 million (for remaining gap segments, estimated construction cost of \$200,000/mile)

Total Annual Operating Cost: Approx. \$2.55 million (estimated maintenance cost of \$15,000/mile/year)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- When complete, the Bay Trail will be a continuous 400-mile multi-use trail that will encircle and cross San Francisco and San Pablo bays, linking the shorelines of all nine counties in the Bay Area and 47 of its cities. About 215 miles of the Bay Trail, or slightly more than half its ultimate length, has been developed.
- The Bay Trail provides easily accessible recreational opportunities for outdoor enthusiasts, including hikers, joggers, bicyclists and skaters. It also offers a setting for wildlife viewing and environmental education, and it increases public respect and appreciation for the Bay.
- The Bay Trail provides a commute alternative for cyclists, and it connects to numerous public transportation facilities, including ferry terminals, light-rail lines, bus stops and Caltrain, Amtrack, and BART Stations. Also, the Bay Trail will eventually cross all the major Bay Area toll bridges.
- The Bay Trail provides access to commercial, industrial and residential neighborhoods; points of historic, natural and cultural interest; recreational areas like beaches, marinas and fishing piers; and over 130 parks totaling 57,000 acres of open space. It passes through highly urbanized areas like downtown San Francisco as well as remote natural areas like the San Francisco Bay National Wildlife Refuge.

Bicycle and Pedestrian Facilities**Bay Trail Gap Segments (County) (Total Cost)
(Total Miles):**

- Coyote Creek (Santa Clara) (\$1.8 million) (2.8 miles)
- Alviso Marina (Santa Clara) (\$500,000) (1.5 miles)
- Moffett Field (Santa Clara) (\$210,000) (0.7 mile)
- East Bayshore Freeway (San Mateo) (\$5 million) ((2.0 miles)
- Burlingame Bayfront Trail (San Mateo) (\$1.5 million) (0.25 mile)
- San Francisco Airport Alignment (San Mateo) (\$8 million) (4.2 miles)
- South San Francisco Bayfront Trail (San Mateo) (\$100,000) (1.2 miles)
- Southeast San Francisco—Hunters Point Shipyard (San Francisco) (\$100,000) (0.2 mile)
- Shoreline Industrial Park Green (Marin) (\$90,000) (0.3 miles)
- Lakeville/Leveroni/Napa Road (Sonoma) (\$140,000) (14.0 miles)
- Glen Cove Park (Solano) (\$150,000) (0.5 mile)
- Lake Merritt to Estuary Park (Alameda) (\$500,000) (approx. 1 mile)
- Pt. Pinole to Carquinez Strait (Contra Costa)
 - Pt. Pinole to Wilson Pt. (\$750,000) (2.25 miles)
 - Wilson Pt. To Bayfront Park (\$2 million) (1.25 miles)
 - Bayfront Park to Lone Tree Pt. (\$2 million) (2.5 miles)
 - Lone Tree Pt. To Carquinez Bridge (\$200,000) (3.25 miles)
- Oyster Bay to Martin Luther King Jr. (Alameda)
 - Bridge between Oyster Bay and Sewer Treatment (\$950,000) (approx. 0.25 miles)
 - Trail from Sewer Treatment to Airport Blvd. (\$200,000) (approx. 0.33 miles)
 - Garretson Pt. To Curt Flood Field (Damon Slough Bridge Trail Improvements) (\$1 million) (approx. 0.75 miles)

Total Cost: \$ 25.19 million

Total Miles: 39.23 miles

Bicycle and Pedestrian Facilities**Project Title**

San Francisco Bay Trail Bridge Segments

Project Description

Construct remaining bridge segments of the Bay Trail:

- San Francisco/Oakland Bay Bridge-West Span (\$65 million)
- Richmond/San Rafael Bridge (\$93.4 million for 2-way, 12-14 foot wide structure)
- San Mateo-Hayward-Bridge (\$50 million for trestle section, \$84 million for a new 13.5-foot bridge or \$123 million to cantilever to the existing bridge)

Project Background

- State Senate Bill 100 (Lockyer), passed in 1987, advanced the concept of a "Ring around the Bay" and directed ABAG to develop an alignment for the Bay Trail as well as funding and implementation plans.
- Bay Trail Plan was adopted in 1989.
- Implementation of the Bay Trail is being coordinated by the Bay Trail Project, a nonprofit organization housed at ABAG.
- Bay Trail bridge segments include the following toll bridges: Benicia-Martinez, Carquinez, Dumbarton, Golden Gate, Richmond-San Rafael, San Francisco-Oakland, and San Mateo-Hayward.
- MTC Bay Bridge committee agreed to include a bike/pedestrian path on the proposed new east span.
- Subsequent State legislation authorized bridge tolls to be used for providing bike/pedestrian path on the west span of the Bay Bridge, but Transbay Terminal improvements are competing for the same funds.
- Caltrans' recent bicycle/pedestrian access study of the Richmond-San Rafael Bridge concluded that a new attached parallel path needs to be added due to maintenance and safety issues on existing deck.
- Regional Measure 1 provides funding to widen San Mateo Bridge's trestle portion and approaches to 3 lanes in each direction.

- Bicycle activists requested that Caltrans provide for access to the widened San Mateo Bridge's trestle portion in anticipation of future replacement of the existing 6-lane high rise portion or additional funding to continue a separate bike/pedestrian path adjacent to the high rise portion.
- The Bay Conservation and Development Commission (BCDC) subsequently granted Caltrans a construction permit for the trestle widening without requiring direct bicycle/pedestrian access.

Proposed Operating Scenario N/A

Estimated Costs

Capital: Approx. \$331.4 million (1999\$)

(assumes most costly alternatives)

Annual Operating Cost: Approximately \$225,000

(assumes \$15,000/mile/year maintenance cost)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- When complete, the Bay Trail will be a continuous 400-mile recreational corridor that will encircle and cross San Francisco and San Pablo bays, linking the shorelines of all nine counties in the Bay Area.
- The Bay Trail provides a commute alternative for cyclists, and it connects to numerous public transportation facilities, including ferry terminals, light-rail lines, bus stops and Caltrain, Amtrak, and BART Stations. It also provides access to commercial, industrial and residential neighborhoods; points of historic; natural and cultural interest; & recreational areas.
- Bike/pedestrian access on San Mateo Bridge is limited due to the curtailment of SamTrans Transbay service, but institution of a new bicycle shuttle required by a BCDC permit should improve access.
- Dumbarton Bridge gets 85-100 users during the weekdays and about half that on weekends. Costs for new facilities are significant for the questionable amount of use.

Bicycle and Pedestrian Facilities

Project Title

East Bay Regional Trail Gap Segments

Project Description

Complete trail segments of four regional multi-use trails in the East Bay (Alameda and Contra Costa Counties): Iron Horse Trail, Shadow Cliffs to Del Valle Trail, Delta de Anza Trail, and San Francisco Bay to San Joaquin River Trail.

- *Iron Horse Trail*
 - San Joaquin County to Shadow Cliffs (Greenville Rd. to First Ave.)
 - Shadow Cliffs to Alameda County (Shadow Cliffs to Santa Rita Rd. and Sant Rd. to BART Station)
 - Walnut Creek Channel Extension (Hwy. 4 to Waterfront Rd.)
- *Shadow Cliffs to Del Valle Trail*
- *Delta de Anza Trail*
 - Hillcrest/Wildhorse (Antioch) to Neroly Rd. (Oakley)
 - Evora Rd. to Iron Horse Trail/Walnut Creek Extension
- *San Francisco Bay to San Joaquin River Trail*
 - Niles Canyon to Shadow Cliffs (Shadow Cliffs to downtown Pleasanton)

Project Background

- Included in the East Bay Regional Park District 1997 Master Plan.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$8.05 million (1999\$)

Total Annual Operating Cost: \$313,500 (1999\$)

(20.9 miles - estimated maintenance cost of \$15,000/mile/year)

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- East Bay Regional Park District provides over 1,000 miles of trails, including regional trails that connect parklands and provide access to local communities.
- The District has found that in recent years the demand for trails close to home has increased dramatically, and trail use has been on the rise for everything from basic transportation to outdoor exercise.
- Regional trails provide non-motorized, multiple-use, pedestrian, equestrian, and bicycling connections between parks, thus encouraging alternative modes of transportation and helping to reduce pollution.
- Regional trails also connect regional parks and trails to important destinations such as transit centers, schools and colleges, civic centers, large commercial complexes, or residential areas.

Bicycle and Pedestrian Facilities

Project Title

Local Bicycle and Pedestrian Facilities -
Regionwide

Project Description

Construct local bicycle and pedestrian facilities regionwide beyond those identified in the 1998 Regional Transportation Plan.

Local bicycle and pedestrian facilities serve intra county trip purposes and are generally off the regional transportation network. Each county has a significant level of need for local bicycle programs. The project list below identifies *some* priority bicycle and pedestrian facilities, and is not meant to be exhaustive.

Alameda

Currently developing a countywide bicycle plan to be completed in October 2000.

Contra Costa

Priority projects include intersection improvements, bikeway signing and striping, Iron Horse Trail construction, Port Chicago Highway Bikeway, San Pablo Avenue Bike Lanes, the Carquinez Scenic Drive Trail. Capital cost: \$35 million (1999\$)

Marin

Currently developing a countywide bicycle plan to be completed in January 2000.

Napa

Regional gap closures in the bicycle network, expansion of the bike lane network, bike detectors at traffic signals, river trails, and creek trails are identified in NCTPA Strategic Transportation Plan. Capital cost: \$13.7 million (1999\$)

San Francisco

Projects include bicycle parking and storage expansion program, bicycle stations, Bay Trail improvements, Hunter's Point Shipyard bicycle routes, intersection improvements and signal upgrades, and the Yerba Buena Island/Treasure

Island/Bay Bridge Bicycle Connections study. Capital cost: \$30 million (1999\$).

San Mateo

Priority projects include signing and bicycle detectors, a BART – SFO bikeway project, Ralston Avenue Bikeway, south county bikeway projects, San Mateo Bay Trail, North Coast Bikeway, and a variety of interchanges and improvements within the county to encourage intra county bicycle travel. Capital cost: \$19.3 million (1999\$)

Santa Clara

Projects include proposals for sidewalk construction, accessibility ramps, pedestrian connections to transit centers, and gap closures in the bicycle network. Capital cost is about \$0.300 million (1999\$).

Solano

Currently updating its countywide bicycle plan to be completed in spring 2000.

Sonoma

Sonoma County proposes a 400-mile bicycle improvement program. Project requests range from minor roadway shoulder widening and bicycle lane markings to paved pathways and grade separated bicycle facilities. Capital cost: \$21.0 million (1999\$)

Estimated Costs

Capital: Minimum of \$120 million (1999\$)

Observations/Issues

- The development of a "seamless" network of local bicycle and pedestrian facilities would improve connectivity of City downtowns to residential areas and provide new or improved access to transit and major activity centers. It would also make bicycling and walking a more viable travel option.
- \$80 million in gap closures identified in Blueprint Phased Implementation Plan is a subset of this project.

Rail Road Right-of-Way Preservation

Project Title

Railroad Right-of-Way Preservation

Project Description

Acquire railroad rights-of-way for future regional transit improvements

Project Background

- Bay Area railroad rights-of-way have been purchased to preserve mass transit options; examples include Northwestern Pacific in Sonoma/Marin/Napa Counties, Dumbarton Rail Bridge in Alameda/San Mateo Counties. The old SP San Ramon Branch line in Contra Costa County was initially purchased for a future "commuterway", but has since become a significant recreational trail - Iron Horse Trail.
- Intercity and/or commuter rail service operates on privately owned railroad rights-of-way; several of these services operate jointly with existing privately operated freight service.

Proposed Operating Scenario

There are several new or expanded rail services described in this Blueprint Project Notebook that will require new/additional rights-of-way or operating easements. These include:

- UP Line between San Jose and Hollister (Caltrain - see Santa Clara Subarea)
- UP Niles-San Jose Branch Line (Commuter Rail/BART - see Fremont-South Bay Corridor)
- Old SP Niles-San Jose Branch Line (Commuter Rail/BART - see Fremont-South Bay Corridor)
- UP-Auburn, Sacramento, Oakland, San Jose (Capitol Service - see I-80 Corridor)
- UP Tracy/Altamont Branch Line (ACE Service - See I-580 Corridor)

Estimated Costs

Capital: TBD

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Right-of-way purchase would preserve future rail operating rights
- Expansion of some existing rail service may not be possible without right-of-way or easement purchase
- Some rail rights-of-way may not be available in the future if sold off or existing freight service is intensified
- AB 74 (Strom-Martin) requires Caltrans to conduct a 10-year assessment of existing and proposed passenger rail services.

Transportation for Livable Communities

Project Title

Transportation for Livable Communities Program (TLC)

Project Description

Provide planning and capital assistance for projects that strengthen the link between transportation, community goals and land use.

Project Background

- The MTC Commission adopted the Transportation/Land Use Connection Policy Statement in 1996 to promote the development / redevelopment of livable communities in the Bay Area.
- With the assistance of the MTC Advisory Council, MTC established the TLC program in 1997.
- The TLC Program has two components: (1) community planning and technical assistance support and (2) capital grants for project implementation. Project examples include pedestrian- and transit-friendly developments and streetscape improvements.
- TLC projects are developed in partnership with transportation providers and local communities, and involve extensive public outreach and participation. Eligible project sponsors are transportation agencies, local jurisdictions and community organizations.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

Funds for Capital Program: \$20 million per year for 20 years

Funds for Planning Program: \$1 million per year for 20 years

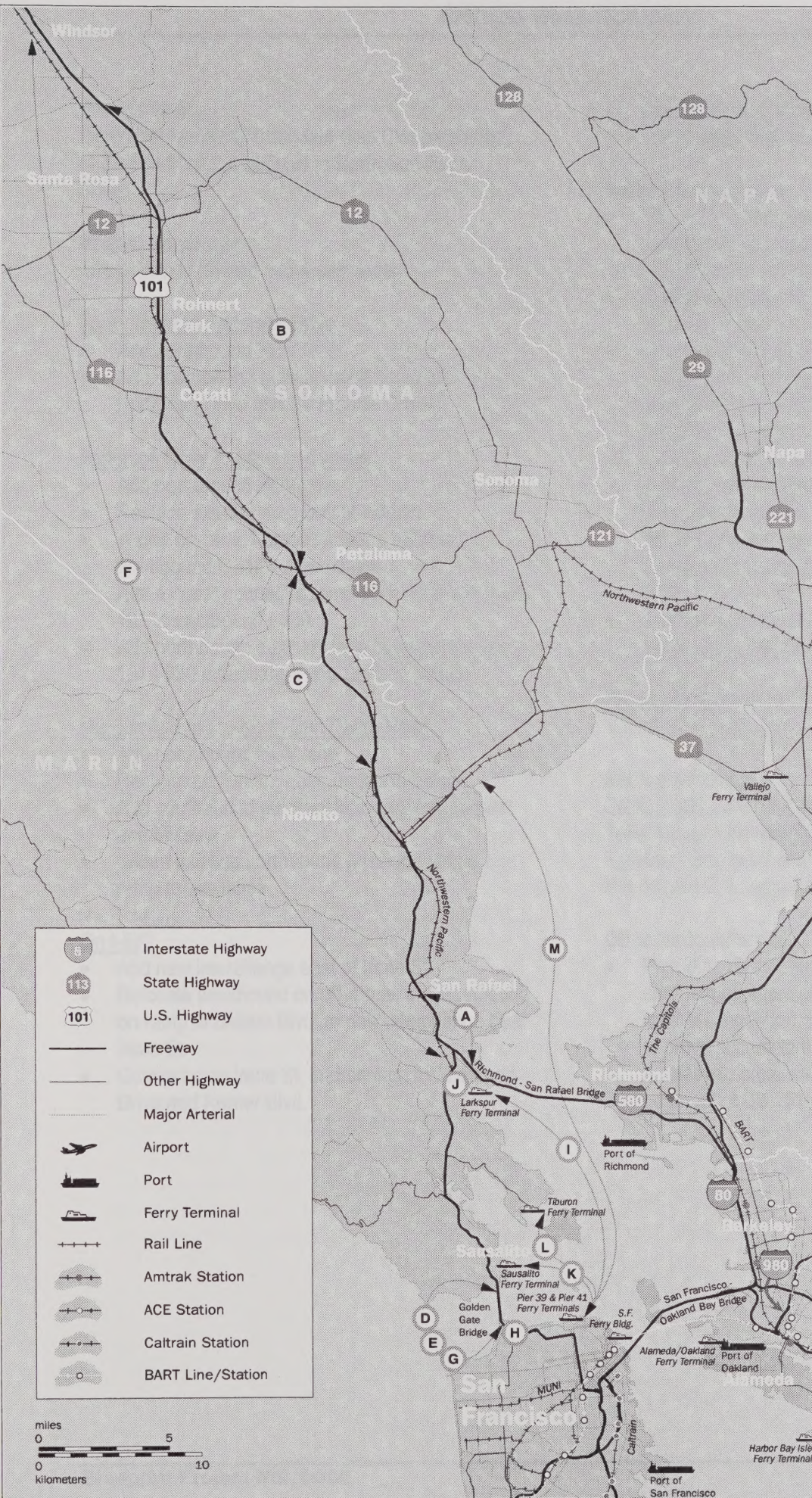
Observations/Issues

- The TLC program provides an opportunity to link transportation investment to neighborhood revitalization and community development. The program also recognizes and encourages new partnerships being developed between public agencies and community representatives to develop TLC projects.
- The last cycle of both the TLC Planning and Capital Programs was extremely competitive. Under the Planning Program, MTC received 41 applications totaling \$1.6 million in requests; however, \$375,000 was available for programming for the FY 1999-2000. Similarly, under the Capital Program, MTC received 88 project applications totaling about \$82 million in requests. For this cycle, \$9 million was available in federal funds through the Surface Transportation and Transportation Enhancements Programs for FY 1998-99.
- As of August 1999, 33 projects have received TLC funding at a total of approximately \$10.1 million (\$9.4 million in capital funds and \$730,000 in planning funds).
- As we enter into the next cycle of the TLC Capital Program, MTC anticipates that the TLC Program will continue to be competitive as local governments, community-based organizations and transportation service providers seek funding to bring new vibrancy to downtown areas, commercial cores and urban/rural neighborhoods and enhance the quality and livability of their communities.

Section B

**Golden
Gate
Corridor**

Golden Gate Corridor



- A** Complete the US 101 Ultimate Gap Closure Project (4.3 miles from North San Pedro Road to Lucky Drive)
- B** New HOV Lanes and Interchange Improvements on US 101 in Sonoma Co.
- C** New HOV Lane(s) on US 101—Atherton to SR 116 East
- D** Golden Gate Bridge Moveable Median Barrier
- E** Golden Gate Bridge Toll Plaza Bus Stop Relocation
- F** Commuter Rail Service from Cloverdale/Healdsburg to San Rafael/Larkspur
- G** Golden Gate Bridge Under-Deck Rehabilitation
- H** Golden Gate Bridge Maintenance Facility Relocation
- I** Improvements to Ferry Service (Larkspur to S.F.)
- J** Golden Gate Ferry Larkspur Terminal Facility Expansion
- K** Improvements to Ferry Service (Sausalito to S.F.)
- L** Expanded Ferry Service (Tiburon to San Francisco)
- M** New Ferry Service (Port Sonoma to San Francisco)

Not Mapped:

- Construct New and Expand Existing Park-and-Ride Lots along US 101
- Expansion of Express and Intercity Bus Service on US 101
- Improved Access to National Park Sites in Marin County
- Expansion of Bus Service in Santa Rosa

Project Title

Complete the US 101 Ultimate Gap Closure Project (4.3 miles from Lucky Drive to North San Pedro Road)

Project Description

The project is divided into 4 segments:

Lucky Drive to Anderson Drive

- Add northbound HOV lane
- Add southbound auxiliary lane between Anderson Drive and Sir Francis Drake

Anderson Drive to Mission Avenue

- Add northbound HOV lane
- Replace existing northbound viaduct
- Widen on-ramp from westbound I-580 to northbound US101 to two lanes
- Add a direct connector ramp from northbound US 101 to eastbound I-580
- Add northbound auxiliary lane between the US 101/I-580 interchange and Second Street

Mission Avenue to North San Pedro Road

- Add northbound HOV lane
- Reconstruct Linden Lane undercrossing
- Add southbound auxiliary lane between Lincoln and Mission
- Widen existing northbound Mission Avenue on-ramp to two lanes

On I-580

- Add new interchange east of Irene St.
- Relocate westbound on/off-ramps and eastbound on-ramp at Bellam Blvd. to new interchange near Irene St.
- Connect new Irene St. interchange to Anderson Drive and Kerner Blvd.

- Add eastbound auxiliary lane between US 101 interchange and new Irene St. interchange

Project Background

- The current interchange provides direct ramps only from I-580 west to US 101 north and from US 101 south to I-580 east.
- Caltrans completed a PSR for the Ultimate Gap Closure in 1987.
- The 1998 STIP provided funding for a southbound HOV lane and southbound auxiliary lane through San Rafael. The RTP assumes \$82.8 million (year 2011) to convert the southbound HOV lane to a reversible HOV lane.
- In 1999, Caltrans will complete the EIR/ EIS for the northbound HOV lanes. This study will include the unfunded improvements to the existing connector from I-580 west to US 101 north.
- The new connector from northbound US 101 to eastbound I-580 has not been studied further.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$91 million for 4 segments (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Providing direct connection between the southern segment of US 101 and I-580 would relieve congestion on Sir Francis Drake and improve access to the Larkspur Ferry Terminal.
- A relatively small share of traffic on the southern segment of US 101 connects with I-580.

Project Title

New HOV Lanes and Interchange Improvements on US 101 in Sonoma County

Transportation and Land Use Study (Calthorpe Study) and the Sonoma County Measure B expenditure plan. In 1998, the voters failed to authorize a sales tax increase to fund the expenditure plan.

Project Description

Provide two continuous HOV lanes in the freeway median from River Road (in Windsor) to SR 116 East (in Petaluma). Upgrade several interchanges and provide new interchanges at selected locations.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$284.28 (1999\$)

(See table below for details – shown in 1998\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Background

- The 1998 Regional Transportation Plan (RTP) shows funding is committed for some project segments; funding was provided for others in Track 1. The Blueprint would accelerate the delivery of these segments. For detail, see table under project cost.
- Project included in the preferred alternative of the 1997 Sonoma/Marin Multi-modal

Observations/Issues

- Continuity of HOV necessary to support carpooling and express bus service.

Capital Costs for US 101 Improvements (1998\$)

Measure B Cost Estimates	(\$Mill)	RTP Status
Windsor River Blvd. – River Rd.	33	
River Rd. – Steele Lane	31	Track 1
River Rd./ Mark W. Springs	7	
Steele Lane – Wilfred Ave. (1)	85	Committed (IIP, 1998 STIP)
Steele Lane I/C	12	Track 1
Hearn Ave. I/C	18	
Bellevue Ave. I/C	14	
Todd Rd I/C	31	
Wilfred Ave. – Hwy. 116 W.	20	
Wilfred Ave. I/C	28	
Hwy. 116 W -- Old Redwood Hwy. (2)	75	
Old Redwood Hwy – Hwy 116 E	49	Track 1
Old Redwood Hwy I/C	22	
New Petaluma Interchange	27	
East Washington Ave. I/C	27	
Subtotal Sonoma County Meas. B	479	
Less committed and Track 1 (3)	(203)	
Remainder	276	

Notes:

(1) Includes College Ave. & Hwy. 12 interchanges

(2) Includes Hwy. 116 W. interchange

(3) Assumes elements included in RTP Track 1 or Baseline (committed) are fully funded.

Project Title

HOV Lane(s) on US 101 – Atherton in Novato to SR 116 East in Petaluma

Project Description

A range of upgrade options exist (from least to most costly):

- 1) Reversible HOV lane in the median of US 101, using primarily existing ROW. Possible alternatives include median widening only, median widening with minimal grade separation at critical intersections, and upgrade to full freeway standards. MTC's *US 101 Variable Pricing Study: SR 37 to the Petaluma River Bridge* found no financial or operational advantage for this scenario.
- 2) Two HOV Lanes at reduced freeway standards, converting the segment to a six lane freeway with one HOV lane in each direction.
- 3) Two HOV Lanes through Novato Narrows on US 101, built to full freeway standards, converting the freeway to six lanes with one HOV lane in each direction. Freeway would be built to full freeway standards with two or three interchanges, depending on the alternative selected.

Project Background

- Track 1 of the 1998 Regional Transportation Plan (RTP) funds two HOV lanes on this segment (\$249 million total in 2011), assuming partial funding from the IIP. The Blueprint would accelerate the delivery of this project.
- The existing segment is a four-lane expressway with several at grade intersections and driveways.
- Upgrade to full freeway status first proposed in 1985; previous corridor studies, including Calthorpe study, have considered the addition of two HOV lanes. Ultimately, the project was not included in the preferred alternative. The

Caltrans PSR, completed January 1999, assumes two HOV lanes at full freeway standards.

- The Sonoma County Measure B expenditure plan included \$89 million for two HOV lanes. Marin County did not include the project in their Measure A ballot measures. The Sonoma County voters approved the expenditure plan but did not authorize the sales tax increase to fund the expenditure plan.

Proposed Operating Scenario

The two HOV lane alternatives would be operated in the standard fashion.

Estimated Costs

Capital:

- \$124.3 million for reversible* (1999\$)
- \$124.3 million for two lanes, reduced standards** (1999\$)
- \$216.2 million for two lanes, full standards (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

* Source: Calthorpe/DKS

**Source: Sonoma/ Marin Multi-modal Transportation and Land Use Study, Report 3, Preferred Alt.

Observations/Issues

- There is concern about the impact of a new facility on growth in both counties.
- Sonoma County has implemented a land use freeze in this section of US 101.
- MTC is currently studying the feasibility of tolling new lanes south of the Petaluma Bridge to finance/accelerate their construction.
- Sanitary Landfill Road intersection is a major safety concern.
- Building short of full freeway standards would reduce structure footprint and likely reduce wetlands impacts as well as cost.

Project Title

Golden Gate Bridge Moveable Median Barrier

Project Description

Install a moveable median barrier system to replace the current "cone" lane delineation that must be adjusted manually to change lane configurations on the six lane Golden Gate Bridge roadway.

Project Background

The Golden Gate Bridge has a 62' wide roadway with six lanes for traffic in both directions. The bridge toll plaza has 11 toll lanes and one outside lane. The 6 bridge lanes and 12 toll plaza lanes are reconfigured 4 times each day to accommodate directional traffic volumes. Peak weekday morning and evening directional traffic volumes require 4 lanes with 2 lanes provided to the reverse commute. Midday and weekend traffic require 3 lanes in each direction. Low volume, late night traffic requires 2 lanes in each direction allowing for 2 lanes to be closed as a safety "buffer". There is no median barrier on the bridge due to its limited width. Though infrequent, head-on collisions occur resulting in severe injuries and sometimes fatalities

Over the past decade, District has been searching for new moveable median barrier technology that can fit into the limited width roadway and allow for lane changes while providing for a safety barrier to prevent head-on collisions. District contracted with Barrier Systems, Inc. (BSI) to develop and test a new moveable barrier for use on the bridge recognizing that lane widths on the bridge would have to be reduced to accommodate the width of the barrier. The Board authorized conceptual approval for the installation of (BSI) 1-foot-wide Quickchange Movable Median Barrier in 1998. Preliminary engineering work is ready to begin.

Proposed Operating Scenario

The barrier would be moved by a special vehicle that would operate in accordance with the current lane reconfiguration schedule. The project includes establishing areas on both ends of the bridge for vehicle storage.

Estimated Costs

Capital: \$8 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Barrier will reduce the number of severe injuries and fatalities on the bridge.

Project Title

Golden Gate Bridge Toll Plaza Bus Stop Relocation

Project Description

Reconstruct the southern approach of the bridge toll plaza to accommodate longer GGT bus dwell times; longer dwell times will support timed-transfers between GGT (and MUNI) buses.

Project Background

- Included in the 1997 SRTP for Golden Gate Transit but dropped from 1999 plan due to insufficient funding and need for coordination with planning for Doyle Drive project.
- Existing GGT bus stops are constrained by roadway geometrics and proximity to toll plaza. Buses cannot dwell at the stops to make transfer connections without interfering with toll plaza operations.
- Conceptual plans were prepared in a 1982 Toll Plaza Master Plan Study to relocate the GGT bus stops but the project did not move forward due to lack of funds. Relocation of the northbound bus stop was proposed as an STP/CMAQ project in 1997 as part of a plan to widen and repave the toll plaza. This project also failed to receive funds and District proceeded with paving separately. Toll plaza widening has been deferred pending the implementation of ETC.

Proposed Operating Scenario

The project would support and improve existing transfers between GGT buses and MUNI buses. Transfers provide extended coverage of San Francisco and avoid additional cost of operating direct GGT services beyond the downtown area.

Estimated Costs

Capital: \$5 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

GGT Toll Plaza bus stops are recognized as a Regional Transit Transfer Point. Improved transfer coordination at this location was recommended in 1988 MTC Regional Transit Coordination Plan.

Project Title

Commuter Rail Service from Cloverdale/ Healdsburg to San Rafael/ Larkspur

Project Description

Implement passenger rail service on the existing Northwestern Pacific right of way in Marin and Sonoma Counties. Two service scenarios:

- 1) Cloverdale - Downtown San Rafael Limited Start-up Service (68.2 miles, 13 stations) 30 minute peak period headways; 2 hour off-peak headways by 2012

Source: Sonoma/ Marin Area Rail Transit Commission preferred alternative (2000)

- 2) Healdsburg - Larkspur Ferry Terminal Full Build-out Service (53 miles, 14 stations) 15 minute peak period headways; 1 hour off-peak headways

Source: Sonoma/ Marin Multi-modal Transportation and Land Use Study preferred alternative (1996)

Both scenarios include track repairs, rolling stock purchase, station construction, and feeder bus service.

Project Background

- This project is included in Track 2 of the 1998 RTP.
- Existing Northwest Pacific ROW runs parallel to US 101 through Marin and Sonoma counties and into Mendocino. In 1998, heavy rains damaged the usable track in Mendocino, Sonoma, and Marin counties, restricting already limited freight service. Significant repairs and upgrades would be required to run passenger service.
- 1989 Corridor Study recommended capital improvements to implement commuter rail in Sonoma County and light rail in Marin County.
- A consortium of local public agencies purchased the ROW in 1995.
- The Sonoma/ Marin Multi-modal Transportation and Land Use Study (1996) considered full build-out scenarios for service between Healdsburg and the Larkspur Ferry Terminal. A start up rail service based on the preferred alternative was included in Measure B in 1998. Though the expenditure measures passed, the finance measure failed.

- In 1998 the Sonoma/ Marin Area Rail Transit (SMART) Commission initiated a study focused on a more limited start-up service scenario with the goal of including the project in the next sales tax/ expenditure measures to go on the ballot.
- Extending the service to Larkspur requires reconstruction of the tunnel under Calpark Hill, a new overhead structure to the Ferry terminal and a grade separation at Anderson Drive. In 1999, the City of Larkspur indicated it did not support this extension.

Proposed Operating Scenario

Rail Service

- 1) Cloverdale - Downtown San Rafael Limited Start-up Service
30 minute peak period headways; 2 hour off-peak headways (by 2012)
Passenger service would be compatible with existing freight service.
- 2) Healdsburg - Larkspur Ferry Terminal Full Build-out Service
15 minute peak period headways; 1 hour off-peak headways

Feeder Bus and Shuttles

Frequencies would be upgraded on existing routes operated by GGT, Sonoma County Transit, Santa Rosa City Bus, and Petaluma Transit. Shuttle service would be added.

Estimated Costs

Rail scenarios

- 1) Cloverdale – Downtown San Rafael Limited Start-up Service (2012 service levels)*
Capital: \$137.7 to \$155.2 million (1999\$)
Total Annual Operating Costs: \$7.9 to \$8.7 million (1999\$)
Farebox Recovery Assumed: 33 - 36%
Net Annual Operating Costs: \$5.1 to \$5.7 million
- 2) Healdsburg - Larkspur Ferry Terminal Full Build-out Service**
Capital: \$189.8 million (1999\$)
Total Annual Operating Cost: \$14.44 million (1999\$)
Farebox Recovery Assumed: 30 - 50%
Net Annual Operating Cost: \$7.22 - \$10.10 million

Feeder Bus Service

Capital: \$11.6 million (1999\$)

Total Annual Operating Cost: \$3.7 million
(1999\$)

Farebox Recovery Assumed: 20%

Net Annual Operating Cost: \$2.9 million

* Source: Commuter Rail Implementation Plan Draft Final Report (May 2000) Includes station construction costs.

** Based on full build-out scenario in the Calthorpe study, including \$15.4 million (1999\$) for station development. The estimate also includes an updated estimate (\$36.2 million) for the extension to the Larkspur Ferry Terminal based on the 1999 SMART study.

Observations/Issues

- There is interest in keeping the ROW open and accessible for freight operations, viewed as important to the north coast economy. There is additional interest in running excursion trains to accommodate tourists.
- The North/South Bikeway Feasibility Study recommended that a portion of the ROW be converted to a class 1 bikeway.
- Environmental concerns include wetlands impact, noise impacts, and development impacts on existing communities. Grade crossings are a safety concern.
- The Larkspur extension would facilitate transfers between rail and ferry, for trips to San Francisco. The capital costs to extend the track from downtown San Rafael to the Larkspur Ferry Terminal make this an extremely expensive extension on a per mile basis. The extensive work required on this section suggests it might be pursued in a second phase.
- Existing ROW parallel to SR 37 might allow rail service to connect with future ferry service at Port Sonoma.

Project Title

Golden Gate Bridge Under-deck Rehabilitation

Observations/Issues

This is a critical bridge maintenance project

Project Description

Project includes re-painting the under-deck of the bridge to remove existing corrosion and protect it from future corrosion.

Project Background

An inspection of the bridge under-deck was conducted in 1998. The inspection revealed serious corrosion of painted steel components. A program of corrosion removal and component rehab and repainting using improved non-corrosive materials was recommended.

Proposed Operating Scenario

Repairs would be undertaken over a period of three years beginning 2006 and after completion of seismic retrofit. Stop-gap, temporary remedial repairs will be done in 2000.

Estimated Costs

Capital: \$22 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Golden Gate Bridge Maintenance Facility Relocation

Project Description

Relocate the bridge maintenance facility and other buildings with functions not essential to operation of bridge toll plaza from their current location adjacent to Toll Plaza to an undetermined site in the Presidio.

Project Background

The 1993 Presidio General Management Plan of National Park Service/Golden Gate Recreational Area calls for restoration of the current facility site for recreational use, necessitating the relocation of the existing non-essential operating and administration facilities.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$25 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

Relocation is desired by GGNRA to permit recreation use and restore the natural habitat.

Project Title

Improvements to Ferry Service from Larkspur to San Francisco

Project Description

Advance purchase of a third high-speed vessel, replace one set of hydraulic boarding ramps, and upgrade the equipment and facility at the terminal. Landside access improvements include signalization of the intersection of East Sir Francis Drake Blvd. and Andersen Dr., geometric improvements to the intersections near the terminal entrance/exit drive, coordination of transit signals along East Sir Francis Drake, a bicycle bridge over Corte Madera Creek, and a variable message sign on US 101. A more expensive project would advance the replacement of both the third and fourth vessels.

Project Background

- The project is recommended in the MTC Ferry Plan Update (1999). The more aggressive ferry replacement is included in the Bay Area Council's High Speed Water Transit System Plan (1999)
- Golden Gate Transit currently provides this service and would be the sponsor.
- In 1998 Golden Gate Transit introduced a high speed vessel (1 of 4 total) for the Larkspur route. A second high-speed vessel will be purchased in FY 1999-2000 and one of the Larkspur vessels will be shifted to replace a slower vessel on the Sausalito route. This will also allow interlining of midday service to provide hourly service from Larkspur and Sausalito. The third and fourth vessels are currently scheduled for upgrades in 2005-07.
- Some recommendations in the 1995 Larkspur Terminal Access Study, parking and transit access, have been implemented. Others, such as refining the ferry schedule and restructuring

feeder bus, are expected to be implemented with the replacement of the fourth vessel.

Proposed Operating Scenario

The MTC project would maintain current headways (25 minutes in the peak, 60 minutes in the off-peak) but allow operation with three vessels. The high-speed vessels make the 11 mile trip in 30-32 minutes.

The Bay Area Council (BAC) project would keep all four ferries and increase service frequency to 15 minute headways in the peak period.

Estimated Costs

Replace 1 vessel:

Capital: \$20.6 million (1999\$)

Total Annual Operating Cost: \$9.6 million (1999\$)

Farebox Recovery Assumed: 30%

Net Annual Operating Cost: \$6.7 million

Replace 2 vessels:

Capital: \$23.69 - \$28.84 million (1999\$)

Total Annual Operating Cost: \$10.9 million (1999\$)

Farebox Recovery Assumed: 68%

Net Annual Operating Cost: \$3.5 million

Observations/Issues

- Landside access remains constrained. The 1995 Larkspur Terminal Access Study looked at parking expansion and found it may be viable but would attract additional traffic through already congested intersections.
- Project would potentially increase demand through more frequent service.
- More high-speed trips are expected to boost ridership, as occurred previously.
- Financing for rail service on the existing Northwest Pacific ROW was rejected by Marin and Sonoma county voters in 1998. However, if financing were approved in the future, rail service might be extended to serve the exiting Larkspur ferry terminal, though at great expense.

Project Title

Golden Gate Ferry Larkspur Terminal Facility Expansion

Project Description

Expand customer parking and expand operating, maintenance and administration facilities located at the Larkspur ferry terminal to support projected demand for larkspur ferry service.

Project Background

- A 1996 terminal access study recommended a phased program of capital and operating improvements to meet projected demand for Larkspur to San Francisco ferry services.
- Short term, interim facility and service enhancements are Included in the 1999 SRTP for Golden Gate Transit.
- This project would build a \$20 million, 1,500 space, semi-depressed parking structure option recommended in the long range improvement program and expand the existing maintenance facility and add a fifth berth for \$5 million as recommended by the ferry division to support expanded ferry services.

Proposed Operating Scenario

This project would support four, high speed ferries running between Larkspur and San Francisco ferry service and also provide for overnight storage of the Sausalito ferry vessel.

Estimated Costs

Capital: \$25 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Landside access is constrained. The 1996 Larkspur Terminal Access Study looked at parking expansion and found it may be viable but would attract additional traffic through already congested intersections. However, the alternative to building a parking structure is to triple the use of feeder buses and reduce parking demand. While the District is planning feeder bus improvements and expects to increase bus to ferry riders, in the long term feeder bus service will need to be supplemented with additional parking to avoid constraining ferry use. Proposed construction of a new US 101/I-580 interchange ("Ultimate gap closure") would remove through traffic from these intersections and alleviate traffic congestion at the ferry terminal.
- More high-speed ferry trips are expected to boost ridership.
- Financing for rail service on the existing Northwest Pacific ROW was rejected by Marin and Sonoma county voters in 1998. However, if financing were approved in the future, rail service might be extended to serve the exiting Larkspur ferry terminal, though at great expense.

Project Title

Improvements to Ferry Service from Sausalito to San Francisco

Project Description

Improvements include a shelter for the waiting area and gangway and improvements to accommodate kiss-and-ride and bus transfers for improved landside access. Changes in operating costs assume that two of the vessels currently operated on the Larkspur route are shifted to the Sausalito route, allowing faster and more frequent service.

A more expensive project would replace the two Sausalito ferries with 25 knot vessels, faster than the two that would be retired from the Larkspur route.

Project Background

- The project is recommended in the MTC Ferry Plan Update (1999). The more expensive ferry replacement is included in the Bay Area Council's High Speed Water Transit System Plan (1999).
- Golden Gate Transit provides commute service and would be the sponsor.
- Current service includes 2 round trips in the peak hour with 30 minute travel time.

Proposed Operating Scenario

Under the MTC project, travel time will be reduced to 20-22 minutes, permitting 30 minute peak period headways, and 60 minute headways in the off-peak.

The more expensive replacement would reduce travel time to 15 minutes.

Estimated Costs

Capital improvements and replacement with Larkspur vessels:

Capital: \$1.24 million (1999\$)

Total Annual Operating Cost: \$0.06 million (1999\$)

Farebox Recovery Assumed: 31%

Net Annual Operating Cost: \$0.040 million (1999\$)

More aggressive replacement:

Capital: \$7.21 million (1999\$)

Total Annual Operating Cost: \$1.6 million (1999\$)

Farebox Recovery Assumed: 100%

Net Annual Operating Cost: \$0

Observations/Issues

- Blue and Gold Fleet operates off-peak service between Fisherman's Wharf, Tiburon, and Sausalito and would benefit from facility improvements.
- Landside constraints: Parking expansion at Sausalito is not considered feasible. Residents of Sausalito are concerned that a shelter might block views of the bay.
- The route already serves a large number of recreational trips. Future studies may consider running a shuttle from the Sausalito ferry terminal to provide alternative access to National Park Service facilities in southern Marin and a new ferry route to Fort Baker for recreational use.

Project Title

Expanded Ferry Service from Tiburon to San Francisco

Project Description

Replace the existing ferries with high-speed ferries (25 knots) and extend service from the Ferry Terminal to Mission Bay.

Project Background

- Included in the Bay Area Council's High Speed Water Transit System Plan (1999).

Proposed Operating Scenario

The high-speed ferries would run the route in 30 minutes, allowing 30 minute headways in the peak period and 60 minute headways in the off-peak.

Estimated Costs

Capital: \$7.21 million (1999\$)

Total Annual Operating Cost: \$3.2 million (1999\$)

Farebox Recovery Assumed: 53%

Net Annual Operating Costs: \$1.5 million (1999\$)

Observations/Issues

- Landside access remains constrained.
- There is currently no capacity shortage. Project would potentially increase demand through more frequent service, as well as capacity.

Project Title

New Ferry Service: Port Sonoma to San Francisco

Project Description

Construct a ferry terminal and parking on the south side of the existing Port Sonoma Marina. Purchase one to two ferries and introduce peak period service between Port Sonoma and the San Francisco Ferry Building. The 22 mile route requires vessels capable of 33 to 35 knots to provide competitive travel times (45 to 47 minutes).

Project Background

- The project is included in the Bay Area Council's High Speed Water Transit System Plan (1999).
- Route originally proposed as a traffic mitigation measure for a planned residential development in Novato and included in the 1992 Ferry Plan. When the development fell through, planning for the project lapsed for lack of a sponsor.
- Service appears technically and financially feasible but is unlikely to proceed without an interested sponsor. With a low subsidy per passenger trip, route may be a candidate for public-private partnership. Alternatively, if funds became available, route could be operated by GGBHTD, whose service jurisdiction includes Port Sonoma. However, GGBHTD currently has no plans to initiate service on this route.

Proposed Operating Scenario

- 1) Single vessel operating two trips in the peak period
- 2) Two vessels operating three trips in the peak period

Estimated Costs

- 1) Single vessel, two trips
 - Capital: \$12.26 million (1999\$)
 - Total Annual Operating Cost: \$0.95 (1999\$)
 - Farebox Recovery Assumed: \$0.78 (83%)
 - Net annual operating costs: \$0.16 (1999\$)
- 2) Two vessels, three trips
 - Capital: \$20.50 million (1999\$)
 - Total Annual Operating Cost: \$1.44 million (1999\$)
 - Farebox Recovery Assumed: \$1.02 (71%)
 - Net Annual Operating Cost: \$0.42 (1999\$)

Observations/Issues

- Landside, waterside, and development impacts require more detailed analysis; environmental constraints may be prohibitive.
- Compatibility of land use has been identified as a serious issue for this terminal site as the surrounding area is agricultural and supports a large wildlife habitat
- Though the 1992 Ferry Plan questioned the adequacy of access roads to handle the ferry-related traffic, the 1998 Update suggests the capacity is adequate.
- Project currently lacks a sponsor.
- If voters were to approve funding for HOV lane extensions on 101 or rail service on the Northwest Pacific ROW, connections and improvements to the existing Larkspur ferry service might be a higher priority

Project Title

Construct New and Expand Existing Park and Ride Lots along US 101

Project Description

Several improvements have been explored to varying levels of detail:

- Expand existing lots adjacent to Highway 101 at San Quentin (50 new spaces) and Seminary Drive (12 new spaces).
- Construct a new lots adjacent to Highway 101 in Fairfax (bike racks and 31 new spaces) and in Novato at Nave Drive.
- Construct a new lot in Tiburon at Lyford Ave (not adjacent to Highway 101).

An additional new lot may be considered in Larkspur at Redwood Hwy. and Wornum.

Project Background

- The San Quentin, Seminary Drive, and Fairfax projects were submitted for STP/ CMAQ funding in 1998, but currently remain unfunded.
- The other projects are in various states of development. Cost estimates have been provided where available.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: (millions 1999\$)

Expand lot at San Quentin	\$0.15
Expand lot at Seminary Drive	\$0.31
New lot in Fairfax	\$41,200
New lot in Novato	\$0.11
New lot in Tiburon	\$0.26
TOTAL (5 lots)	\$0.60

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Costs: N/A

Observations/Issues

There are demonstrated parking shortages at several of the sites.

Location	Year	Cost (\$M)
San Quentin	2000	0.15
Seminary Drive	2000	0.31
Fairfax	2000	41.200
Novato	2000	0.11
Tiburon	2000	0.26
Total	2000	0.60

Project Title

Expansion of Express and Intercity Bus Service on US 101

Project Description

Project includes vehicle purchase, route improvements, intermodal facilities, and purchase of shop and office equipment to upgrade existing express and intercity bus service operated by Golden Gate Transit and Sonoma County Transit

Project Background

- With a continuous network of HOV lanes, increased express bus could complement or be an alternative to rail in this corridor. The Sonoma/ Marin Multi-modal Transportation and Land Use Study (1997), also known as the Calthorpe study, defined an express bus alternative (Report 1, Alt. B), which was ultimately rejected in favor of the rail alternative. The sales tax expenditure plans in Marin and Sonoma Counties included the rail alternative.

Proposed Operating Scenario

Upgrade frequencies of existing routes. Potential improvements are described below for illustrative purposes. Buses on US 101 would run in continuous HOV lanes from Windsor to Corte Madera.

Routes	Peak Headway	Off-Peak Headway
GGBHTD Sonoma/ Marin to San Francisco		
Rtes. 71, 78, 90	30	60
Rte. 80	15	15
Rte. 20	15	30
Rte. 30, 51	60, 60	
Rte. 50	15	15
Rte. 70	30	30
GGBHTD Marin to Contra Costa		
Rte. 40	15	15
GGBHTD Intra-Marin County		
Rtes. 1, 21, 23	15	15
Sonoma County Transit Intra-Sonoma Co.		
30, 40, 44, 48, 60	30	60

Estimated Costs (total of 59 buses)

Sonoma/Marin to San Francisco

Capital: \$12.67 million (1999\$)

Total Annual Operating Cost: \$18.75 million (1999\$)

Farebox Recovery Assumed: \$5.89 million

Net Annual Operating cost: \$12.86 million

Marin to Contra Costa

Capital: \$2.11 million (1999\$)

Total Annual Operating Cost: \$4.82 million (1999\$)

Farebox Recovery Assumed: \$1.52 million

Net Annual Operating cost: \$3.30 million

Intra Marin County

Capital: \$2.46 million (1999\$)

Total Annual Operating Cost: \$5.07 million (1999\$)

Farebox Recovery Assumed: \$1.59 million

Net Annual Operating cost: \$3.48 million

Intra Sonoma County

Capital: \$4.58 million (1999\$)

Total Annual Operating Cost: \$2.88 million (1999\$)

Farebox Recovery Assumed: \$0.82 million

Net Annual Operating cost: \$2.06 million

Observations/Issues

- Although the 1998 ballot funding measure did not pass, rail with feeder bus appears to have public support, which would limit the funding for a significantly upgraded corridor bus service.
- Project assumes continuous HOV lanes from Windsor to Corte Madera. See project description for HOV lanes on US 101.

Project Title

Improved Access to National Park Sites in Marin County

Project Description

Provide recreational transit service to Muir Woods and other National and State park sites in Southern Marin. The alternative studied to date is a free shuttle service from the Manzanita park and ride lot to Muir Woods between April and October. Existing parking at Muir Woods would be converted to paid parking.

Project Background

- The Golden Gate National Recreation Area recently completed the Muir Woods Transportation Study (1999) which considered alternatives to reduce traffic congestion and alleviate parking shortage, thereby improving access to the national park. This study recommended the project described here.
- Funding has been secured to expand the existing Manzanita park and ride lot to accommodate park visitors as well as commuters.
- A second phase will include a more detailed study of alternatives for improving access to Muir Woods and several nearby recreational park sites including Stinson Beach, Muir Beach, and Tennessee Valley. This may result in recommendations for different or expanded recreational transit services.

Proposed Operating Scenario

Details to be determined.

Estimated Costs

- 1) Manzanita – Muir Woods Shuttle:
Capital: \$1.7 million (1999\$)
Total Annual Operating Costs: \$1,19 million (1999\$)
Farebox Recovery Assumed: N/A
Net Annual Operating Cost: \$0.01 million surplus from parking revenues
- 2) Other recreational transit services:
Capital: TBD in Phase 2
Total Annual Operating Costs: TBD in Phase 2
Farebox Recovery Assumed: N/A
Net Annual Operating Cost: (less parking revenues): TBD in Phase 2

Observations/Issues

- Traffic congestion within the national park sites and on Rte. 1, the primary access road from US 101, are of major local concern.
- Project to improve access should address future growth in demand as well as current congestion.
- Service is predominantly recreational, with peak demands during the summer and on weekends; however, congestion on weekdays during the summer is also a concern.

Project Title

Expansion of Bus Service in Santa Rosa

Project Description

Project would implement Santa Rosa City Bus's service expansion/ growth plan to:

- Extend the hours of night service,
- Restore Sunday service and extend hours;
- Provide service on select holidays;
- Implement the Rincon Valley/ Bennett Valley Crosstown Route and the Southwest Circulatory Route to link commercial and residential developments;
- Increase weekday service on selected routes providing commute services and Route 1, providing access to Sutter Medical Center.

Project Background

- Santa Rosa City Bus Short Range Transit Plan Update 2000/2008 identifies unfunded service expansion consistent with the Long Range Transit Plan.

Proposed Operating Scenario

- Offer 60 minute headways from 8:00 to 10:30 PM on all routes except 1, 7 and 14.
- Sunday and holiday service levels would be determined on a route by route basis with the objective of matching Saturday service levels where warranted.
- Offer all day service on the new Rincon Valley/ Bennett Valley Crosstown and Southwest Circulatory routes.
- Service frequency of Route 1 serving Sutter Medical Center and on selected routes providing commute services would be upgraded as warranted.

Estimated Costs

Capital: \$1.7 million (1999\$)

Total Annual Operating Cost: \$1.4 million (1999\$)

Farebox Recovery Assumed: 29%

Net Annual Operating cost: \$1 million

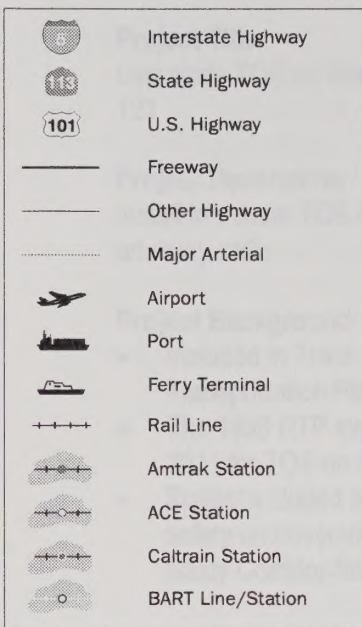
Observations/Issues

- The service expansion plan is based on rider surveys and current performance as well as the Long Range Plan.
- Providing transit alternatives to short trips on US 101 may reduce freeway congestion.

Section C

**North Bay
East-West
Corridor**

North Bay East-West Corridor



- A** Low-Scale TOS on State Routes 116 and 121
- B** Park-and-Ride Lots (SR 116 near SR 121, SR 29 near SR 12/29, SR 121 at SR 29)
- C** Intersection Improvement—SR 12/29 at SR 121
- D** Intersection Improvement—SR 12/29 at Airport Rd.
- E** Safety Improvements on SR 121
- F** Safety Improvements on Lakeville Hwy.—Shoulder Widening
- G** SR 12 Improvements between I-80 and Rio Vista Bridge
- H** Widen SR 12 from SR 29 to I-80
- I** SR 37 Widening with Environmental Improvements
- J** SR 116 Realignment between Sonoma and Petaluma

Not Mapped:

- New Express Bus Service from Napa County to Solano County (SR 12)



Project Title

Low scale TOS on State Route 116 and State Route 121

Project Description

Install low scale TOS elements, primarily highway advisory radio.

Project Background

- Included in Track 2 of the 1998 Regional Transportation Plan (RTP).
- The 1998 RTP included funding \$1.4 million in 2011 for TOS on SR 37.
- Project included among a number of operational/safety improvements recommended in North Bay Study Corridor Study (1998).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$0.309 to \$0.52 million (1999\$)

- SR 116: \$0.1 to \$0.21 million
- SR 121: \$0.21 to \$0.31 million

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Weekend and event congestion can be severe. Recreational and commercial and agricultural vehicles are significant users. Low scale TOS would provide better information to travelers, thereby easing congestion and facilitating incident management.

Project Title

Park and Ride Lots: SR 116 near SR 121, SR 29 near SR 12/29, SR 121 at SR 29

Project Description

Make the following park and ride improvements:

- Construct a new lot at SR 116 near SR 121 (to replace an existing lot that will be eliminated in intersection improvements);
- Construct a new lot at SR 29 up or downstream from SR 12/29;
- Expand and formalize the existing park and ride lot off SR 121 at SR 29.

Project Background

- The 1998 Regional Transportation Plan (RTP) Track 1 included \$2 million for a new park and ride lot on SR 37 on the east side of the Napa River Bridge, as recommended by corridor study.
- Included in the North Bay East West Corridor Study (1998).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$4.12 to \$8.24 (1999\$)

- New lot at SR 116 near SR 121: \$2.06 to \$4.21 million
- New lot SR 29 near 12/29: \$1.03 to \$2.06 million
- Expand existing lot off SR 121 at SR 29: \$4.12 to \$8.24 million

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Possible wetlands impacts for the park and ride lot on SR 37 near the Napa River bridge.
- Park and Ride lots primarily oriented toward carpools.

Project Title

Intersection Improvement—SR 12/29 at SR 121

Project Description

Improve intersection of SR12/29/121, most likely through construction of the first phase of an eventual full interchange. A low cost alternative would make at grade improvements.

Project Background

- Included in Draft Strategic Transportation Plan (1999)
- The low cost alternative was one of several operational and safety projects recommended in North Bay Study Corridor Study (1998) to improve corridor safety and operations.
- Population and job growth have increased corridor travel demand.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$0.33 to \$11 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This interchange serves as the western gateway into Napa County. It is also used as an alternate to SR 37.
- Capacity expansions would serve the commuter, truck, and tourist traffic. Level of service at this location is forecast to stay at F through 2020.
- Sensitive wetlands area; significant mitigations are likely to be necessary.

Project Title

Intersection Improvement—SR 12/29 at Airport Road

Project Description

Improve intersection of SR 12/29/Airport Rd, possibly including a full interchange.

Project Background

- Included in Draft Strategic Transportation Plan (1999)
- A minimal, low cost improvement was one of the safety/ operational improvements recommended in the North Bay Corridor Study.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$2 to \$15 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Capacity expansions would serve the commuter, truck, and tourist traffic. Level of service at this project location is forecast to stay at F through 2020.
- This project is the intersection of the two major access roads to Napa County.
- This intersection provides direct access to the Napa County Airport and one of three large industrial parks. It provides secondary access for the remaining two large industrial parks.

Project Title

Safety Improvements on SR 121

Project Description

Widen shoulders of SR 121, provide turn lanes east of Shellville, and make drainage improvements.

Project Background

- Track 1 of the 1998 RTP includes roughly \$8 million in Year 2011 for a number of low-scale safety and operational improvements on SR 116 and 121 including shoulder widening at spot locations along SR 121. Additional low-scale improvements described here are included in RTP Track 2. The Blueprint would accelerate the delivery of this project.
- The North Bay Corridor Study (1998) recommended low-scale safety improvements on SR 121.

Observations/Issues

- Shoulder widening on SR 121 will require wetlands mitigations.
- Recreational and commercial and agricultural vehicles are significant users.
- Safety is a major concern throughout the corridor; SR 121 east of SR 116 has a particularly high accident rate.
- The improvements will enhance safety and further improve conditions for recreational, commercial, and agricultural traffic.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$12.36 to \$17.51 million (1999\$)

- Two- way left turn lane east of Schellville along SR 121: \$4.12 to \$5.15 million
- Drainage improvements at Schellville along SR 121: \$1.03 to \$2.06 million
- Continuous shoulder widening on 121: \$7.21 to \$10.3 million

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Safety Improvements on Lakeville Highway—
Shoulder Widening

Project Description

Widen Lakeville Highway to provide shoulders. The low-end improvement would widen shoulders at critical spot locations. The high-end improvement would add shoulders to the entire segment from SR 37 to Stage Gulch Road and provide a bike lane.

Project Background

- One of the safety/ operational improvements recommended in the North Bay Corridor Study (1998).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: up to \$13.39 to \$20.6 million (1999\$)

- Shoulder widening at spot locations along Lakeville Road: \$2.06 to \$3.09 million per mile
- Continuous shoulder widening on Lakeville Road: \$13.39 to \$20.6 million

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Consistent with the overall corridor, concerns on this route include accommodating commercial, agricultural, and weekend tourist traffic while improving safety.
- Sensitive wetlands area, project specific mitigation possibly necessary.

Project Title

SR 12 Improvements between I-80 and Rio Vista Bridge

Project Description

Operational and safety improvements

Project Background

- Included in the 1998 Regional Transportation Plan Track 2.
- Hwy. 12 is a two lane road between Suisun City and Rio Vista (approximately 20 miles in length). The roadway has limited shoulders, passing lanes and turn pockets.
- Project was included in HR45 Report adopted by the legislature in 1994. \$33 million has already been programmed in the 1998 STIP to improve vertical and horizontal curves and to extend passing lanes.
- An MIS type study will be conducted in FY 00-01 to determine the final scope of additional necessary work.
- CHP is currently conducting a Corridor Safety Project funded through the Office of Traffic Safety.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$14 million for upgrade of SR 12 to expressway (1999\$) but final scope of improvements to be determined in MIS

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- It is a major freight thoroughfare between I-80 and the Central Valley. Truck traffic composes over 10% of the average annual daily traffic

Project Title

Widen SR 12 from SR 29 to I-80 (Jamieson Canyon)

Project Description

Widen SR 12 from SR 29 to I-80 (Jamieson Canyon) to four lanes.

Project Background

- Included in the 1998 Regional Transportation Plan Track 1. The Blueprint would accelerate the delivery of this project.
- Included in the NCTPA Strategic Transportation Plan (1999).
- Included in the North Bay Corridor Study (1998).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$35 million to \$55 million (1999\$)

- \$14.0 million (1999\$) for engineering, environmental, and design work
- \$21 million to \$41 million (1999\$) for construction

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Travel between Napa and Solano Counties is increasing and there are no viable alternatives to the highway.
- This project increases road and intersection capacities to accommodate future travel demand for commuter, visitor, and freight related trips.
- Level of service at this project location is forecast to decline from D in current year to F in 2020.
- This project serves as one of the two major access roads to Napa County. It makes a direct link to I-80.
- This project requires concomitant widening of the two-lane section in Solano County.

Project Title

SR 37 Widening with Environmental Improvements

Project Description

Widen SR 37 to a 4-lane highway (2 lanes in each direction) with intersection improvements. Project will raise the roadway with a drainage retention dike to prevent flooding. Project includes wetlands restoration and a new Bay Trail alignment. A much lower scale improvement would provide pullouts for trail access.

Project Background

- Recent safety improvements have included constructing a median barrier from the Napa River Bridge to Skaggs Island and removing passing lanes.
- MTC conducted a major corridor study to define near term operational cost as well as long term transportation improvements.
- The Corridor study found traffic will exceed existing capacity by 2015; hence the recommendation to widen the highway.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$0.21 to \$0.41 million per access pullout (number to be determined); or \$154.5 million for full widening and environmental improvements (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Route 37 Widening Project would necessarily include significant wetlands restoration as mitigation.
- Recreational and commercial and agricultural vehicles are significant users. Inadequate geometrics create safety hazards. Weekend and event congestion (Sears Point Raceway) can be severe.
- Widening could make a significant contribution to maintaining acceptable travel time and level of service in the corridor over the long term.

Project Title

SR 116 Realignment between Sonoma and Petaluma

Project Description

Realign SR 116 (Stage Gulch Road) along Champlin Creek and widen the remaining segments.

Project Background

- Track 1 of the 1998 RTP includes roughly \$8 million in Year 2011 for low scale safety improvements on SR 121 and this section of SR 116. The Blueprint would accelerate the delivery of these projects.
- The realignment was included in Sonoma County Measure B, the county sales tax measure for which the expenditure plan but not the finance measure was adopted by the voters in 1998.
- The North Bay Corridor Study (1998) recommended low-scale safety improvements (widening shoulders at spot locations and improving selected intersections) as an alternative to the expensive and high impact realignment project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$27.81 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Safety is a major concern on this route, which has narrow shoulders, tight curves, and a moderate grade.
- May require wetlands mitigations.
- Recreational and commercial and agricultural vehicles are significant users.
- The improvements will enhance safety and further improve conditions for recreational, commercial, and agricultural traffic.

Project Title

New Express Bus Service from Napa County to Solano County via Route 12

Project Description

Provide new express bus service from Napa County to Solano County (Fairfield) via Route 12.

Project Background

N/A

Proposed Operating Scenario

Proposed new express bus service would be provided as follows:

Operator (Route)	Proposed Headways (minutes)	
	Peak	Midday
Napa (New)	60	60

Estimated Costs

Capital: \$1.41 million (1999\$)

Total Annual Operating Cost: \$0.46 million (1999\$)

Farebox Recovery Assumed: \$0.10 million (1999\$)

Net Annual Operating Cost: \$0.36 million (1999\$)

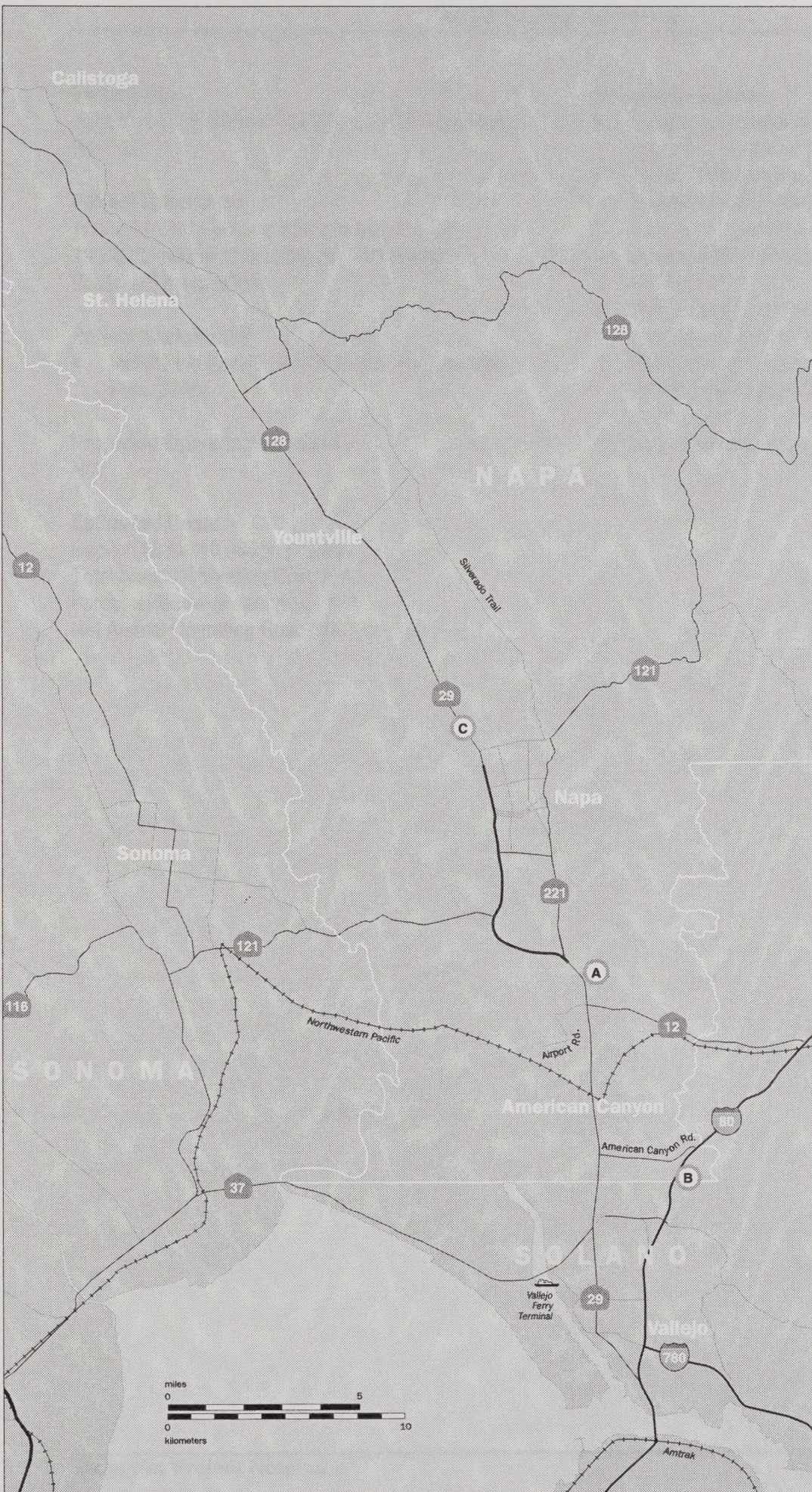
Observations/Issues

- There are no transit alternatives in this corridor to serve growing commute and recreational travel.
- New express bus service is intended to primarily serve commuters between Napa and Solano Counties.

Section D

**Napa
Valley
Subarea**

Napa Valley Subarea



- A** Widening of SR 29 from SR 221 to SR 29/12/Airport Rd.
- B** Extension of Flosden Rd. from American Canyon Rd. to Kelly. Realignment and Signalization of American Canyon Rd./Flosden Intersection
- C** SR 29/Trancas Street/Redwood Road Interchange Shortfall

Not Mapped:

- Express Bus Service to BART Link/Vallejo Ferry

	Interstate Highway
	State Highway
	U.S. Highway
	Freeway
	Other Highway
	Major Arterial
	Airport
	Port
	Ferry Terminal
	Rail Line
	Amtrak Station
	ACE Station
	Caltrain Station
	BART Line/Station

Project Title

Widening of SR 29 from SR 221 to SR 29/12/Airport Rd

Project Description

Widen SR 29 by adding one lane from the SR 29/12/221 intersection to the SR 29/12/Airport Boulevard intersection.

Project Background

- Included in the NCTPA Strategic Transportation Plan (1999).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$5 to \$10 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project increases road and intersection capacities to accommodate future travel demand for commuter, visitor, and freight related trips.
- Capacity expansions to serve the commuter, truck, and tourist traffic are needed. Level of service at this project location is forecast to stay at F in 2020.
- This project serves as a key segment in the roadway network for Napa valley. It provides direct access to three major industrial areas, has no alternate routes less than 10 miles away, and all east-west or north-south traffic in the southern parts of the county pass over this segment.

Project Title

Extension of Flosden Rd. (4 lanes) from American Canyon Rd. to Kelly. Realignment and signalization of American Canyon Rd./Flosden intersection.

Project Description

Extend Flosden Rd. (4 lanes) from American Canyon Rd. to Kelly. Realign and signalize American Canyon Rd./Flosden intersection.

Project Background

- Included in the NCTPA Strategic Transportation Plan (1999).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$17 to \$22 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project provides for a SR 29 alternate route from American Canyon Road to SR 221 where no alternates currently exist.
- Level of service at this project location is forecast to decline from B in current year to F in 2020.

Project Title

State Route 29/Trancas Street/Redwood Road
Interchange Shortfall

Project Description

Fully fund the State Route 29/Trancas Street/Redwood Road interchange project. The current Caltrans design calls for SR 29 to be depressed below Trancas/Redwood with a standard diamond interchange replacing the intersection.

Project Background

- The SR 29/Trancas/Redwood Road intersection has been a top priority for improvement in Napa County for many years, but an improvement has not been implemented largely because increasing costs of the proposed design exceeded available funding.
- The Napa County Transportation Planning Agency (NCTPA) completed the *State Route 29/Trancas Street/Redwood Road Lower Cost Interchange Alternatives Study* in August 1999.
- On September 15, 1999, the NCTPA Board adopted a position supporting the interchange project with direction to Caltrans to redesign the Trancas/Redwood Bridge to accommodate a second westbound to southbound turning lane, and add a southbound lane to the realigned California Boulevard. The Board reaffirmed this position on March 15, 2000.
- The interchange project is a Committed Funding project in the 1998 Regional Transportation Plan (RTP).
- The total project cost is \$60.0 million of which \$57.0 million has been committed to the project, but a shortfall of \$3.0 million remains. The Blueprint would fund the shortfall.
- The interchange project will be bid in FY 2001, and is anticipated for completion in FY 2004.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$3.0 million shortfall (1999\$)
Total Annual Operating Cost: N/A
Farebox Recovery Assumed: N/A
Net Annual Operating Cost: N/A

Observations/Issues

- The interchange project will greatly reduce traffic congestion and improve safety.

Project Title

Increase Express Bus Service to BART Link/Vallejo Ferry

Project Description

Increase express bus service to BART Link/Vallejo Ferry from eight to fifteen round trips per day.

Project Background

- Included as Track 2 in 1998 Regional Transportation Plan.

Proposed Operating Scenario

Service is to increase from eight to fifteen round trips per day.

Estimated Costs

Capital: \$500,000 (one bus) (1999\$)

Total Annual Operating Cost: \$150,000 (1999\$)

Farebox Recovery Assumed: \$45,000 (30%)

Net Annual Operating Cost: \$105,000

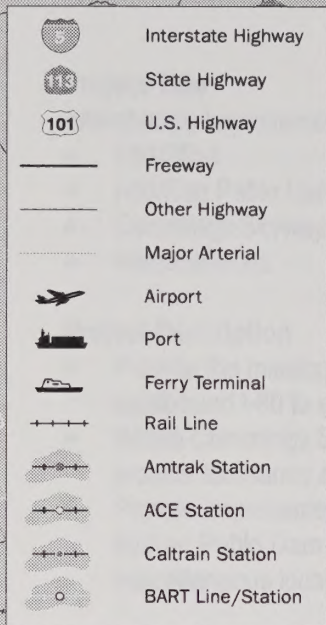
Observations/Issues

- This project provides improved regional transit connections. Express bus service will link to BART Link and Ferry Terminal in Vallejo via SR 29.
- The decreased headways will help NVT increase its thirty percent farebox recovery ratio—an already excellent figure for rural/suburban transit.

Section E

**Interstate
80
Corridor**

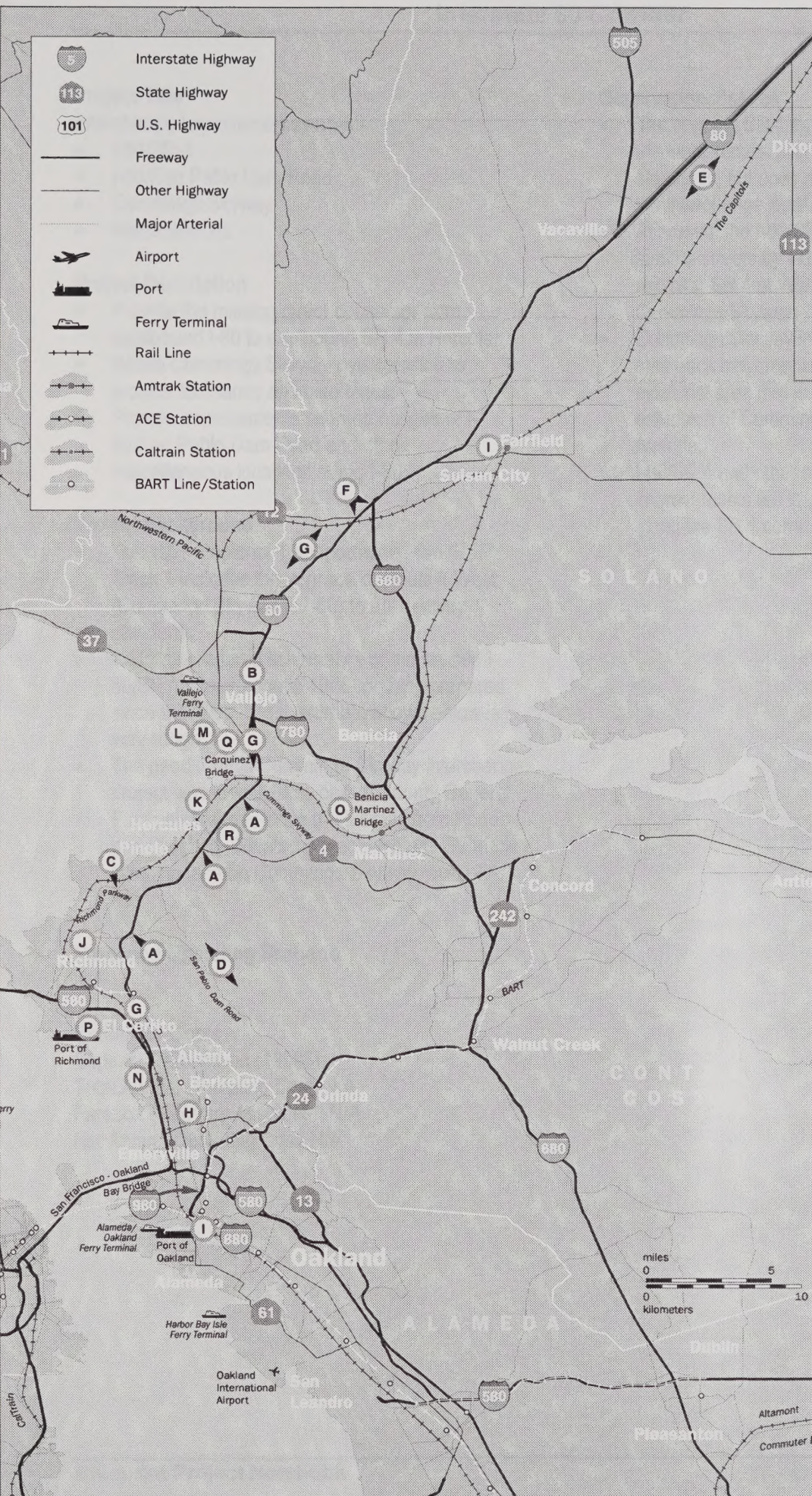
Interstate 80 Corridor



- A** Interchange Improvements: I-80/Highway 4, I-80/San Pablo Dam Rd., I-80/Cummings Skyway
- B** Interchange improvements and possibly HOV on I-80 between Carquinez Bridge and Highway 37
- C** Richmond Parkway: Grade-Separated Interchange at San Pablo Avenue
- D** San Pablo Dam Road Improvements
- E** I-80 Widening between Vacaville and Dixon
- F** I-80/I-680/SR12 Interchange Improvements
- G** Express Bus Services from Solano County to East Bay (I-80)
- H** Enhanced Transit Service in San Pablo Ave./Telegraph Ave. Corridors
- I** Capitol Corridor Upgrade
- J** BART Extension to Hilltop Mall or Pinole Vista/Pinole Shores
- K** BART Extension to Hercules
- L** Enhanced Vallejo Ferry Service
- M** Intermodal Facilities at Vallejo Ferry Terminal
- N** New Ferry Service from Berkeley/Albany
- O** New Ferry Service from Martinez/Benicia
- P** New Ferry Service from Richmond
- Q** Light Rail on the Carquinez Replacement Bridge
- R** I-80 Northbound HOV Lane Extension (SR 4 to Carquinez Bridge)

Not Mapped:

- Solano County Bus Service
- West Contra Costa County Bus Service
- Improved Bus Service on San Pablo Dam Road



Project Title

Interchange Improvements on I-80

- I-80/SR-4
- I-80/San Pablo Dam Road
- Cummings Skyway
- Miscellaneous

Project Description

- Provide the missing direct connector from westbound I-80 to eastbound SR 4 in Hercules.
- Widen Cummings Skyway overcrossing to provide turn lanes and bike lanes.
- Provide improvements on interchanges of I-80/San Pablo Dam Road and other miscellaneous locations along I-80.

Project Background

- The 1998 Regional Transportation Plan (RTP) Track 1 includes the upgrade of Route 4 West (Cummings Skyway to I-80) to full freeway standards.
- Caltrans prepared schematics of the revised I-80/SR 4 interchange in 1986, nothing prepared since that date. Cost estimate shown below is very rough.
- The need for this Cummings Skyway interchange project was identified as part of County General Plan policies to remove truck traffic from Rodeo and Crockett. Related projects include EB truck climbing lane on Cummings Skyway, east of I-80.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$125 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The ongoing SR 4 freeway gap project will widen the westernmost portion of SR 4 to freeway standards, but does not change the geometry of the interchange itself.
- At present the I-80/SR 4 connection is made via surface streets by exiting at Willow Avenue, and rejoining SR 4 at Willow/Sycamore, or by using Cummings Skyway.
- Cummings Skyway interchange improvement will shift truck movements to the Rodeo/Crockett industrial area that is now served by the recent extension of Cummings Skyway to San Pablo Avenue.
- I-80/SR 4 and other miscellaneous interchange improvements will improve service and operation along the SR 4 corridor.

Project Title

Interchange Improvements and possibly HOV Lanes along I-80 between the Carquinez Bridge and Highway 37 (through Vallejo)

Observations/Issues

- Interchange improvements and possibly HOV lanes could improve the operations and traffic flow along this section of I-80.

Project Description

Project scope to be determined after the preparation of a PSR level study to address the need for interchange improvements and possibly HOV lanes on I-80 between the Carquinez Bridge and Highway 37 (through Vallejo).

Project Background

- The I-80 interchange improvements in Solano County project are included in the 1998 Regional Transportation Plan (RTP) Track 2.
- According to the I-80 Corridor Study, I-80 between the Carquinez Bridge and Highway 37 is predicted to be one of the most congested segments of I-80. A relatively narrow right-of-way, closely spaced interchanges, and inadequate weave merge lanes characterize this segment of I-80. In addition most of the ramps do not meet current standards and terminate on local residential streets rather than on major arterials as they should. It should also be noted that the I-80/I-780 Interchange does not meet current Caltrans standards. These conditions contribute to the current and future congestion along this segment of I-80.
- The review of the addition of HOV lanes on this segment of I-80 should also be reviewed concurrently with the many interchanges that need review.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: TBD – pending PSR level study

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Richmond Parkway—Grade-separated interchange at San Pablo Avenue

Project Description

Provide an interchange at the existing signalized intersection of Richmond Parkway and San Pablo Avenue.

Project Background

- Initially included in the Richmond Parkway project concept. It was deleted as a cost-cutting measure along with the widening of Section 6 from San Pablo Avenue to I-80.
- Sverdrup, Inc. prepared a PSR for Segment 6 of the Parkway in 1993. At that time the construction costs were estimated to be \$7.4 to \$8.1 million. As part of the Parkway project, the City acquired most of the ROW needed for the proposed project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$10 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Interchange improvements will improve service and operations along the Richmond Parkway.

Project Title

San Pablo Dam Road Improvements

Project Description

Signal / turn channelization, bus stop, pedestrian / bikeway upgrades on San Pablo Dam Road from Tri Lane to El Portal Drive through Richmond/El Sobrante.

Project Background

- Identified in the San Pablo Dam Road Action Plan (1998).
- The City of Richmond and Contra Costa County are undertaking an alignment study to determine the ultimate upgrades to construct.
- Contra Costa County is undertaking an economic revitalization study in Downtown San Pablo to determine improvements for pedestrian, transit, bicycle, and internal circulation between Appian Way and El Portal Drive.
- Related Blueprint projects include the reconstruction of the I-80/San Pablo Dam Road interchange and the bus transit upgrades to San Pablo Dam Road.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$7.0 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- San Pablo Dam Road improvements seek to balance the interests of the business community and local residents with regards to the need to accommodate commuter traffic.
- Improvements are to facilitate commuter traffic along this well-traveled corridor while maintaining a high level of community livability and quality of life for adjacent neighborhoods.

Project Title

Widening of I-80 between Vacaville and Dixon

Project Description

Widen I-80 between Vacaville and Dixon from 3 lanes to 4 lanes. This segment of I-80 currently narrows to three lanes in each direction.

Project Background

- The 1998 Regional Transportation Plan (RTP) Track 1 includes the I-80 HOV lanes between Fairfield and Vacaville.
- Environmental and design work funded in the 1998 STIP.
- Included in the SACOG/MTC Strategic Transportation Planning Study (1989).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$34.5 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Cost estimate is for widening of I-80 from 3 to 4 lanes in each direction between I-505 and Pedrick Rd. Cost comes from the sum of two adjacent projects.
- Increasing commute, truck, and recreational traffic volumes have caused congestion and traffic delays along the I-80 corridor.

Project Title

Interchange Improvements—I-80/I-680/SR 12

Project Description

Improve interchange configuration. Project scope to be determined.

Project Background

- \$7 million in auxiliary lane improvements are programmed in the 1998 STIP.
- Phase I is contained in 1999 TIP to reconstruct I-680 direct connectors and auxiliary lanes (covers 1.9 miles).
- Included in SACOG/MTC Strategic Transportation Planning Study (1989).
- Phase I is estimated at \$7.1 million.
- The City of Fairfield has conceptualized the preliminary scope of work for each of nine phases of the interchange improvements and prepared an initial cost estimate, which totals \$400.0 million, as shown below.
 - Phase 1: Construct a two-lane I-680 Northbound to I-80 Eastbound off-ramp and complete the auxiliary lane to the Eastbound I-80 Truck Scales. (\$8 million Funded)
 - Phase 2: Improve the Green Valley Rd/I-80 Interchange with new ramp connectors to I-80/I-680 and install a westbound I-80 auxiliary lane to Highway 12 (Napa). Caltrans District 4 has approved a Project Study Report for this interchange. (\$19 million)
 - Phase 3: Improve the Suisun Valley Rd./I-80 Interchange, and extend the Westbound I-80 Truck Scale auxiliary lane to the I-680 Southbound on-ramp. (\$12.0 million)
 - Phase 4: Construct the Red Top Rd/I-680 Northbound off-ramp and Southbound on-ramp. (\$7.0 million)
 - Phase 5: Construct the Red Top Rd/Highway 12 Eastbound off-ramp and Westbound on-ramp and improve the Red Top Rd/I-80 Interchange. (\$14.0 million)

- Phase 6: Install the I-80/I-680 Northbound to Eastbound and Westbound to Southbound freeway-to-freeway connectors and relocate I-80 Truck Scales. Complete the following four interchanges: Suisun Valley Rd/I-80, Green Valley/I-80, Red Top Rd/I-80 and Red Top Rd/I-680. (\$250.0 million)
- Phase 7: Install the I-680/Highway 12 freeway-to-freeway connectors and complete the Red Top Rd/Highway 12 interchange. (\$35.0 million)
- Phase 8: Install the I-80/I-680 Northbound to Westbound and Eastbound to Southbound freeway-to-freeway connectors. (\$20.0 million)
- Phase 9: Install the I-80/Highway 12 Eastbound to Westbound (I-80 to Highway 12) and Eastbound to Westbound (Highway 12 to I-80) freeway-to-freeway connectors. (\$35.0 million)

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$400 million for 9 phases (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Interchange is a bottleneck due to increasing traffic volumes on the I-80 corridor.

Project Title

Express Bus Services from Solano County to East Bay (I-80)

Project Description

Operate express bus services along I-80 from Solano County to the East Bay. Add park-and-ride and intermodal facilities as a necessary adjunct.

Project Background

- The purchase of buses for the I-80 express service is included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Included in I-80 Corridor Study (1996).

Proposed Operating Scenario

Provide significant upgrades in service from Vallejo/Fairfield to the del Norte BART Station.

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Midday	Peak	Midday
Vallejo 80	80 – 100+	28 – 68	15 – 60	60
Vallejo 85	30	60	15	30
Vallejo 90	25 – 60	--	15	60

Estimated Costs

Capital: \$4.22 million (1999\$) (12 buses)
 Total Annual Operating Costs: \$2.38 million (1999\$)
 Farebox Recovery Assumed: \$1.05 million (1999\$)
 Net Annual Operating Cost: \$1.33 million (1999\$)

Capital for park-and-ride lots & intermodal facilities:
 TBD

Observations/Issues

- Travel options for commuters are expanded by introducing and expanding express bus services to communities in the corridor that are not presently served by express buses and providing a balanced mix of travel options for corridor commuters.

Project Title

Enhanced transit service on San Pablo Avenue and in the Berkeley/Oakland/San Leandro/ Corridor

Project Description

Transit improvements would include high-capacity articulated buses, new stations and shelters, lighting, signalization for buses and other bus related enhancements.

Project Background

- AC Transit enhanced bus service within the Telegraph Corridor project is included in the 1998 Regional Transportation Plan (RTP) Track 2. AC Transit is studying the Berkeley/Oakland/San Leandro connections of Telegraph, College, and Shattuck in the north, and San Leandro Blvd., International, and Foothill/Bancroft in the south for rapid bus and rail alternatives.
- The San Pablo corridor is being studied for transit improvements by a partnership of agencies, including nine cities, AC Transit, and both Alameda and Contra Costa counties
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 includes \$20 million in Tier 1 for AC Quality bus services in the San Pablo and Telegraph corridors . (Measure B did not pass in 1998).

Proposed Operating Scenario

Final scopes to be determined by corridor studies.

San Pablo Avenue Rapid Bus:

	Current Headways		Proposed Headways (ultimate plan)	
	Peak	Midday	Peak	Midday
AC Transit 72	24	30	20	20
AC Transit 72L	20	60	20	20
AC Transit 73	20	30	20	20
AC Transit 73L			20	20

Estimated Costs

Berkeley/Oakland/San Leandro corridor

Capital: \$64.0 million* (3 corridors) (1999\$)

*21.84 million (1999\$) for the purchase of 24 buses

Total Annual Operating Cost: \$3.92 million (1999\$)

Farebox Recovery Assumed: \$0.98 million (25%)

Net Annual Operating Cost: \$2.94 million (1999\$)

San Pablo Avenue Rapid Bus*

Capital: \$4.58 million (1999\$) (13 buses)

Total Annual Operating Cost: current \$7.64 million (1999\$) Ultimate plan \$11.5 million

Farebox Recovery Assumed: \$1.91 million (1999\$)

Net Annual Operating Cost: \$5.73 million (1999\$)

*See also the *West Contra Costa County Bus Service* project in the I-80 Corridor. Costs shown here are a part of the cost for the West Contra Costa to Oakland/Berkeley route.

Observations/Issues

- Transit upgrades seek to provide high quality service, improve travel times and attract ridership on AC Transit service in Alameda and Contra Costa Counties.
- Upgraded bus service is seen as a viable alternative to construction of a light rail system, which would be significantly more expensive to construct and operate.

Project Title

Capitol Corridor Upgrade (12 daily round trips between San Jose, Oakland, and Sacramento Region and 4 daily round trips between between Solano County and Oakland)

Project Description

Enhance Capitol Corridor service to a total of 12 daily round trips between San Jose, Oakland and the Sacramento Region. In addition, four new daily round trips on a commuter rail segment between Solano County and Oakland would be added.

Project Background

- Currently, seven daily round trips are operated between Oakland and Sacramento, with four through trains to San Jose.

Proposed Operating Scenario

- Capitol Corridor trains would run on hourly intervals in both directions during the day between San Jose and Sacramento.
- Commuter rail runs would decrease headways to 30 minutes in the commute direction between Solano and Oakland.
- Initial concepts for a West Oakland station include either constructing a second West Oakland BART/rail station on the Capitol Corridor line or provide a rail connection to the existing West Oakland BART station (\$25.9 million (1999\$)).
- Additional new rail station(s) in Fairfield, Benicia, Dixon, or Hercules to serve Capitol Corridor intercity rail service is also proposed (\$26.6 million (1999\$)).

Estimated Costs

Capital: \$187.2 million for Bay Area Capitol Corridor portion of total costs equaling \$345 million (1999\$) based on estimates prepared by the CCJPA. Includes costs of track upgrades at Jack London Square, Great America, Niles Junction and Alviso. In addition, costs for station upgrades and new stations (West Oakland & Dixon) are also assumed. Costs also account for new train sets.

Total Annual Operating Cost: \$14.4 million (1999\$)

Farebox Recovery Assumed: \$4.8 million (1999\$) (33%)

Net Annual Operating Cost: \$9.6 million (1999\$)

Observations/Issues

- Total costs for upgraded system are equitably allocated between Bay Area and Sacramento Regions. In addition, track upgrade costs between Fremont and San Jose are shared between Capitol Corridor, ACE and Union City-San Jose Commuter Rail. Some monies are already allocated from RTP.

See also *Capitol Corridor Commuter Rail from Oakland to San Jose* in the Fremont-South Bay Corridor section of the Notebook.

Project Title

BART Extension—Hilltop Mall or Pinole Vista/Pinole Shores

Project Description

Extend BART service from the Richmond BART Station to either the Hilltop Mall in Richmond near I-80 or a Pinole Vista or Pinole Shores station site, a distance of from 4.5 to 7.7 miles. Add two stations.

Project Background

- Included in MTC Regional Rail Reconnaissance (1998).
- Included in Phase II, BART Extension Staging Policy.
- Evaluated in a number of BART studies, e.g., West Contra Costa Extension Study (1992).

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$355 million to \$970 million (1999\$)

Total Annual Operating Cost: \$0.49 million to \$0.83 million (1999\$)

Farebox Recovery Assumed: \$0.28 million to \$0.47 million (57%)

Net Annual Operating Cost: \$0.21 million to \$0.36 million (1999\$)

Observations/Issues

- BART extension would improve access to BART for residents and workers in northwestern Contra Costa County and in the North Bay.
- BART extension would “capture” I-80 commuters further north on I-80, removing traffic from freeway.

Project Title

BART Extension to Hercules

Project Description

Extend BART service from the Richmond BART Station to Hercules with feeder bus services.

Project Background

- Included as an alternative studied in I-80 Corridor Study (1996), but not a recommended project in the I-80 Corridor investment plan.
- Identified as Priority 3, Phase 2/3 extension in BART's FY 2000 Capital Improvement Program.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$770 million (1999\$)

Total Annual Operating Cost: \$27.5 million (1999\$)

Farebox Recovery Assumed: TBD

Net Annual Operating Cost: TBD

Observations/Issues

- BART extension would improve access to BART for residents and workers in northwestern Contra Costa County and in the North Bay.
- BART extension would relieve traffic on I-80.

Project Title

Enhanced Vallejo Ferry Service

Project Description

Add a third 350-400 passenger High-Speed Ferry to meet peak period demand at the Vallejo Ferry Terminal.

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 2.
- Included in MTC's 1999 *San Francisco Bay Area Regional Ferry Plan Update*, City of Vallejo Short-Range Transit Plan, and Bay Area Council 1999 High-Speed Water Transit System Plan.
- Ridership on the Vallejo ferry service continues to grow. Since acquisition of two high-speed vessels and initiation of an 11 round trip service (replacing the former five round trip schedule), approximately 69,000 passengers used the service in July 1998, compared to 50,000 in July 1997, a month after the new service was initiated, and 33,000 in July 1996. Average July 1998 ridership on weekdays was 2,350, on weekends 1,925.
- The Vallejo ferry service's operating budget increased by approximately 60 percent with the introduction of two-vessel service in May 1997. Ridership increased by 102 percent during the same time frame.
- Richmond/San Francisco ferry service started up the end of September 1999 with initial average weekday ridership less than 200.

Proposed Operating Scenario

MTC Ferry Plan:

Given the number of trips operating at capacity and inability of two vessels to make more than three peak direction commute trips on this 55 minute route, a third 35 knot vessel is required to meet the peak period demand. A third high-speed vessel could increase the number of commute trips from three to five, allowing an increase from a maximum of 900 commute trips to as many as 1,500.

Bay Area Council Water Transit System Plan:

Provide 15-minute peak and 30-minute off-peak headways from Vallejo to San Francisco within a travel time of 50 minutes.

Estimated Costs

Capital: \$8.5 to \$9.0 million (1999\$) (from MTC Plan)
Total Annual Operating Cost: \$4.68 million (1999\$)
Farebox Recovery Assumed: \$2.97 million (1999\$)
Net Annual Operating Cost: \$1.71 million (1999\$)

Observations/Issues

- Enhanced ferry service from Vallejo will address the increasing demand for ferry service during commute times from Vallejo to San Francisco.

Project Title

Intermodal Facilities at Vallejo Ferry Terminal

Project Description

- An intermodal transportation facility at Vallejo Ferry Terminal is required to facilitate the continued growth of this ferry service. Project elements include a parking structure, improved facilities for bus to ferry and kiss-ride connections, and possible future Napa County rail linkage.
- An interim maintenance facility on Mare Island has been developed to service the Vallejo Ferry Terminal. Phase 2 improvements would construct permanent office space to replace trailers, expand heavy maintenance shop space, and could include up to 100,000 gallons of aboveground fuel storage.

Project Background

- Included in MTC's 1999 *San Francisco Bay Area Regional Ferry Plan Update*.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$17.0 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Current and anticipated passenger loads on the Vallejo service are overwhelming the available 700 to 800 parking spaces currently available adjacent to the ferry terminal. Increasing demand and City desire to allow development on a portion of the existing parking area require development of a parking structure and improved facilities for bus to ferry and kiss-ride connections.
- The maintenance facility could become a regional, North Bay ferry maintenance base if additional services are initiated from Martinez, Benicia, or Port Sonoma.

Project Title

New Ferry Service from Berkeley/Albany

Project Description

Establish a new route and ferry service from a Berkeley/Albany ferry terminal.

Project Background

- Included in MTC's 1999 *San Francisco Bay Area Regional Ferry Plan Update* which recommended further planning and engineering of this route, both for regular service and as a site for potential emergency ferry service.
- Included in the Bay Area Council's 1999 *High-Speed Water Transit System Plan*.
- The MTC's 1992 *San Francisco Bay Area Regional Ferry Plan* recommended a Berkeley/Albany ferry terminal at the foot of Gilman Street in the City of Berkeley. In 1993, the City of Berkeley requested but was not granted \$220,000 in Transportation Enhancement Activities (TEA) funding to provide for planning and environmental review of the project.
- In 1978-79 and 1989, emergency ferries operated from a terminal in the southeast corner of the Berkeley marina. This terminal has parking limitations, with much of the paved area used for parking for existing uses. Operationally, ferries operate slowly within the marina to prevent damage to other vessels and to limit wake.

Proposed Operating Scenario

MTC Ferry Plan:

Different service alternatives were considered for a Berkeley/Albany ferry. One scenario anticipates one 250-passenger vessel providing hourly service to San Francisco. Another scenario anticipates 30-minute service frequencies using two 149-passenger boats. A third scenario anticipates 20-minute service in the peak periods, with 30-minute service in the off-peak.

Bay Area Council Water Transit System Plan:

Provide 15 minute peak and 60 minute off-peak headways from Berkeley to San Francisco/Mission Bay to Alameda within a travel time of 45 minutes and 30 minute peak and 60 minute off-peak headway to Treasure Island within travel time of 15 minutes.

Estimated Costs

Capital: \$15.5 million (1999\$)

Total Annual Operating Cost:

- \$0.592 million (hourly) (1999\$)
- \$1.274 million (30 minute) (1999\$)
- \$1.595 million (20 minute) (1999\$)

Farebox Recovery Assumed: 58% (hourly), 46% (30 minute), 43% (20 minute)

Net Annual Operating Cost:

- \$0.249 million (hourly)
- \$0.688 million (30 minute)
- \$0.909 million (20 minute)

Observations/Issues

- This route has the potential to be one of the most used maritime services on the Bay with 1,200-1,600 passengers daily (weekday) if it is provided with a visible location, good access and supportive adjacent land uses.
- The Gilman site is the only area of the Berkeley Waterfront available for any type of development. All other uses are primarily recreational and may not be compatible with an intensive ferry transit operation. Supporting developments in the waterfront area and recreational docking facilities to boost overall ridership could increase route success.
- Ferry riders would probably be equally split between BART users and drive alone automobile users.
- Several rerouting and extensions of AC Transit Lines 9, 52, and 43 would be necessary to better serve a Gilman ferry terminal.
- This terminal could link the Eastshore State Park with the Golden Gate National Recreation Area at the Presidio and Fort Baker.

Project Title

New Ferry Service from Martinez/Benicia

Project Description

Establish a new route and ferry service from a Martinez/Benicia ferry terminal.

Project Background

- The ferry service from Benicia and Vallejo to San Francisco project is included in the 1998 Regional Transportation Plan Track 2.
- Included in MTC's 1999 *San Francisco Bay Area Regional Ferry Plan Update* and Bay Area Council's 1999 *High-Speed Water Transit System Plan*.
- City of Martinez completed a new Marina Master Plan, prepared a conceptual engineering and planning study for a ferry terminal and successfully obtained a \$250,000 FHWA Section 1064 grant for ferry facilities.
- Planning is complete for Martinez. This route is ready to move into implementation (including final design, construction and vessel acquisition, and operations) once capital and operating funding is secured. To date, no funding has been available for this ferry service.

Proposed Operating Scenario

MTC Ferry Plan:

Operating scenarios considered include: operate three commute trips and limited midday service, three commute trips with no midday service, and two commute trips with no midday service.

Bay Area Council Water Transit System Plan:

Provide 30-minute peak and 60 minute off-peak headways from Benicia to Martinez to San Francisco within a travel time of 60 minutes.

Estimated Costs

Capital: \$20.7 to 23.7 million (1999\$) (assumes two large vessels)

Total Annual Operating Cost:

- \$0.364 million (no midday/1 boat) (1999\$)
- \$.572 million (no midday service) (1999\$)
- \$1.170 million (midday service)(1999\$)

Farebox Recovery Assumed: 74% (no midday/ 1 boat), 69% (no midday service), 57% (midday service)

Net Annual Operating Cost:

- \$0.095 million (no midday/1boat)
- \$0.177 million (no midday/1boat)
- \$0.503 million (midday service)

Observations/Issues

- Further planning and engineering work is needed to determine which of several alternative sites in Benicia should be selected for docking sites. Availability of adequate parking, local street access, and connecting transit service should be considered in the analysis.
- Even before funding is identified for full ferry service implementation, docks in these locations should be a high priority for emergency earthquake response facilities because of the critical Bay Area to Solano County and Sacramento linkage across the Carquinez Strait.

Project Title

New Ferry Service from Richmond

Project Description

Operate a ferry route between the City of Richmond's southside shoreline and the San Francisco Ferry Building.

Project Background

- Prior to bridges, ferries linked Richmond and San Francisco via the Sante Fe Railway's maritime operation as well as Richmond and San Rafael before the bridge was completed in the late 1950s.
- After the Loma Prieta earthquake closed the Bay Bridge, Caltrans initiated emergency ferry service between Richmond and San Francisco. The 45-minute service attracted just under a thousand daily passengers, which dropped to 300-400 daily patrons after the bridge re-opened.
- Most recently, growth has recently been redirected from outlying areas near El Sobrante and the Hilltop area in Richmond to the older industrial waterfront. New developments have been built in Marina Bay, Brickyard Cove, and Brickyard Landing.
- Included in the MTC's 1992 *San Francisco Bay Area Regional Ferry Plan* and Bay Area Council's 1999 *High-Speed Water Transit System Plan*.
- Ferry service from Richmond has recently been reinstated (September 1999) with about 100 riders per day. The duration of this new service is uncertain.

Proposed Operating Scenario

1992 MTC Ferry Plan:

Proposed ferry location is at Marina Bay. Ferry route would be from Richmond to the San Francisco Ferry Building. Travel time is 45 minutes.

Bay Area Council Water Transit System Plan:

Routes could use 150-passenger, 25-knot vessels, or deploy faster vessels. About 1,000 passengers are projected to use this service. Provide 15-minute peak and 30 minute off-peak headways from Richmond to San Francisco to South San Francisco within a travel time of 45 minutes.

Estimated Costs

Capital: \$3.0 million for vessel plus \$2.4 million for facilities (1999\$)

Total Annual Operating Costs: \$1.06 million (1999\$)

Farebox Recovery Assumed: 41%

Net Annual Operating Cost: \$0.435 million (1999\$)

Observations/Issues

- Initial projections from the 1992 analysis indicate that the ferry service travel time is about half of the travel time by automobile from Richmond, but only for a limited number of residents living close to the proposed terminal. The majority of the commute market is closer to the BART stations and AC Transit express bus services. The service would carry about 240 peak period passengers, which would be about 10 percent of a lane on I-80.
- Redevelopment of the Richmond area could be stimulated by the ferry service, especially in the core area and along the Richmond waterfront.

Project Title

Light Rail on the Carquinez Replacement Bridge

Project Description

The Carquinez Replacement Bridge will have the capacity to accommodate a light rail service on the structure.

Project Background

- The Long Range Rail Alignment Report for the I-80 and I-680 Corridors reviewed many of the possible alignments that could be used for light rail service across the Carquinez and Benicia bridges.

Proposed Operating Scenario

Carquinez Replacement Bridge - A 30 mile route between the Richmond BART station and Napa (via Hercules and Vallejo) or a shorter system originating at the Capitol Corridor in Hercules and extending to the Vallejo Ferry Terminal, approximately 9 miles. Both routes would use existing rail rights of way. Cost estimates range between \$92 million to \$194 million.

Estimated Costs

Capital: \$92 - \$194 million (1999\$)

Total Annual Operating Costs: \$9.5 - \$31.8 million (1999\$)

Farebox Recovery Assumed: 9%

Net Annual Operating Costs: \$8.6 million - \$28.7 million

Observations/Issues

- The options for light rail service on the Benicia and Carquinez Bridges have been preserved through Caltrans' design of the two bridges.
- Ridership to justify these rail projects is not expected to develop in the short term.

Project Title

I-80 Northbound HOV Lane Extension from State Route 4 to the Carquinez Bridge

Observations/Issues

- This project reduces travel times for carpools and transit.

Project Description

Close the northbound HOV lane gap by adding 3.6 miles of HOV lane northbound between State Route 4 and the Carquinez Bridge, which will provide a continuous northbound HOV lane from the Bay Bridge to the Carquinez Bridge.

Project Background

- This project is included in the 1998 Regional Transportation Plan Track 1. The Blueprint would accelerate the delivery of this project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$31.24 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Costs: N/A

Project Title

Solano County Bus Service

Project Description

Provide significant upgrades to routes in Solano County serving intercity trips as well as trips to San Francisco and from Sacramento.

Project Background

- The purchase of buses for the Solano County intercity service is included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Sacramento to Vallejo express service and Solano Intercity service are included in the Solano Intercity Transit Concept Plan (1995).

Proposed Operating Scenario

Proposed service improvements to the Sacramento to Vallejo service and Solano Intercity service are from the Solano Intercity Transit Concept Plan (1995).

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Mid-day	Peak	Mid-day
Sacramento to Vallejo Service				
			9	60
Solano Intercity Service				
			10	60
Intra Solano County				
Fairfield 30/220	60	60	30	30
Benicia Benicia Route	40	60	15	30
Solano to San Francisco				
Vallejo New	--	--	15	30

Estimated Costs

Vallejo to Sacramento Service:

Capital: \$9.61 million (19 buses) (1999\$)
 Total Annual Operating Cost: \$2.58 million (1999\$)
 Farebox Recovery Assumed: \$0.734 million (28.44%)
 Net Annual Operating Cost: \$1.85 million

Solano Intercity Service:

Capital: \$10.12 million (20 buses) (1999\$)
 Total Annual Operating Cost: \$2.91 million (1999\$)
 Farebox Recovery Assumed: \$0.830 million (28.5%)
 Net Annual Operating Cost: \$2.08 million

Intra Solano County Service:

Capital: \$1.06 million (3 buses) (1999\$)
 Total Annual Operating Cost: \$1.49 million (1999\$)
 Farebox Recovery Assumed: \$0.42 million (1999\$)
 Net Annual Operating Cost: \$1.07 million (1999\$)

Solano County to San Francisco Service:

Capital: \$4.22 million (2 buses) (1999\$)
 Total Annual Operating Cost: \$1.83 million (1999\$)
 Farebox Recovery Assumed: \$0.8 million (1999\$)
 Net Annual Operating Cost: \$1.03 million (1999\$)

Observations/Issues

- Benefits of these service enhancements are expanded travel options in the congested I-80 corridor.
- Expanded intercity/express bus service will facilitate travel within Solano County on I-80, from Solano County to San Francisco, and north from Solano County into Sacramento County.

Project Title

West Contra Costa County Bus Service

Project Description

Provide significant upgrades to express/local bus services for Intra-West Contra Costa and from West Contra Costa County to Oakland/Berkeley area and to San Francisco.

Project Background

N/A

Proposed Operating Scenario

Proposed express bus service would provide service from West Contra Costa to Oakland/Berkeley area and to San Francisco.

Estimated Costs

Intra West Contra Costa:

Capital: \$0.7 million (2 buses) (1999\$)

Total Annual Operating Cost: \$0.43 million (1999\$)

Farebox Recovery Assumed: \$0.07 million (1999\$)

Net Annual Operating Cost: \$0.36 million (1999\$)

West Contra Costa to Oakland/Berkeley:

Capital: \$8.1 million (23 buses) (1999\$)

Total Annual Operating Cost: \$11.61 million (1999\$)

Farebox Recovery Assumed: \$2.71 million (1999\$)

Net Annual Operating Cost: \$8.90 million (1999\$)

West Contra Costa to San Francisco:

Capital: \$2.11 million (6 buses) (1999\$)

Total Annual Operating Cost: \$1.83 million (1999\$)

Farebox Recovery Assumed: \$0.46 million (1999\$)

Net Annual Operating Cost: \$1.37 million (1999\$)

Observations/Issues

- Expanded express bus service is desirable within West Contra Costa County to serve emerging markets and transit needs within these communities.
- Other benefits of these increased services are improved travel options.

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Midday	Peak	Midday
Intra-West Contra Costa				
WestCat 30Z	60	72	30	30
West Contra Costa to Oakland/Berkeley				
BART EX J	20	30	15	30
BART EX Q	30	--	15	30
AC Transit New	--	--	15	30
AC Transit 72	24	30	10	15
AC Transit 72 L	20	60	10	15
West Contra Costa to San Francisco				
AC Transit L	60	--	30	30
AC Transit New	--	--	15	30

Project Title

Improved Bus Transit on San Pablo Dam Road

Project Description

Improve coordination and frequency of buses operated by County Connection and AC Transit between the Orinda BART station and San Pablo.

Project Background

- Identified in the San Pablo Dam Road/Camino Pablo Corridor Action Plan (1998).
- Identified in Contra Costa Welfare to Work Transportation Action Plan, which calls for improvement in transit access between low-income areas of West County and job centers in Central County.
- Related projects include the San Pablo Dam Road improvements (which will identify signal modification, bus turn-outs and pedestrian upgrades), the I-80/San Pablo Dam Road interchange reconstruction, and the San Pablo Dam Road/Camino Pablo HOV Facility Needs Study (which will examine improvements to speeds and bus and carpool travel along the corridor).

Proposed Operating Scenario

Provide 60-minute service in off-peak hours, extend to Contra Costa College and coordinate County Connection Route 950 with AC Transit Route 69.

Estimated Costs

Capital: \$1.2 million (4 buses) (1999\$)

Total Annual Operating Cost: \$0.560 million (1999\$)

Farebox Recovery Assumed: \$0.062 million (1999\$) (11%)

Net Annual Operating Cost: \$0.498 (1999\$)

Observations/Issues

- Improved bus services along San Pablo Dam Road will improve transit access between low-income areas of West County and job centers in Central County.
- Current 30-minute peak period service funded by Contra Costa County Measure C funds at \$165,000 annually. Service interlines with bus route in Orinda to reduce need for buses.
- Currently, passengers between San Pablo and Orinda BART station must transfer between County Connection Route 950 and AC Transit Route 69 at Castro Ranch Road in the City of Richmond.

Section F

**State
Route 4
Corridor**

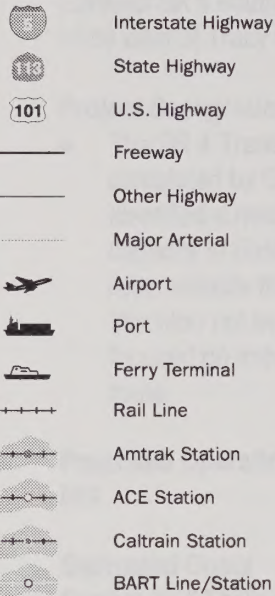
State Route 4 Corridor

- A** SR 239 Connection—Brentwood to Tracy
- B** SR 4 Interchange Improvements
- C** Widening of SR 4 East Corridor
- D** State Route 4 Bypass widening from 2 to 4 lanes from Route 160 to Walnut Blvd.; and construction of new grade separations and interchanges along the State Route 4 Bypass
- E** Widening of SR 4 from I-680 to SR 242
- F** Truck Climbing Lanes on Kirker Pass Road
- G** Pittsburg/Bay Point BART Station Parking Expansion
- H** BART Extension to Railroad Ave. in Pittsburg

- I** BART Extension to Hillcrest Ave. in Antioch
- J** Ferry Service from Antioch

Not Mapped:

- Express Bus Service in SR 4 & I-680 HOV Lanes (East County to Pittsburg/Bay Point BART Station and Tri-Valley)
- Subscription Bus Service on Vasco Road—Brentwood/Antioch to Tri-Valley
- Commuter Rail—Brentwood to Bay Point
- ACE Branch Line—Brentwood to Tracy



Project Title

SR 239 Connection—Brentwood to Tracy
(Byron Highway)

Project Description

Connect SR 4 south of Brentwood to Route 205 and I-580 west of Tracy with an expressway freeway.

Project Background

- The SR 4 Transportation Corridor Concept report completed by Caltrans in November 1997 identified a need for increased transportation capacity in Eastern Contra Costa County. It recommends that improvements to SR 4 east to Stockton not be made; rather efforts should be focused on implementing SR 239, a legislated route.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$1.07 billion (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- San Joaquin County has approved Mountain House, a new community in the vicinity of proposed SR 239. Its EIR calls for four lanes on Byron Highway which is the local access, from SR 4 to SR 205/I-580.
- Byron Highway currently carries 25% truck traffic.
- The north end of SR 239 would connect to SR 4/Vasco Road in the vicinity of Byron airport. This alignment would move SR 239 out of Byron and would provide a better connection to other regional routes.

Project Title

Interchange Improvements on SR 4

- Hillcrest Avenue
- Contra Loma
- Miscellaneous

Project Description

Several older interchanges along SR 4, including Hillcrest Avenue and Contra Loma, will need to be improved to address traffic growth in the corridor.

Project Background

- Identified in the 1999 Route 4 East MIS.
- Transportation improvements in the SR 4 East Corridor have been a priority for a long time and were identified in Contra Costa's Measure C ½ cent sales tax in 1988.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$64.4 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- SR 4 is the primary east-west transportation corridor in Contra Costa County. It serves as East County's primary commute and commerce route.

Project Title

Widening of State Route 4 East Corridor

Project Description

Widening State Route 4 includes:

- Widening Route 4 to 8 lanes between Railroad Avenue and Hillcrest Avenue; stripe the inside lane between Railroad Avenue and Hillcrest Avenue for HOVs
- Widen Route 4 to 6 lanes between Hillcrest Avenue and the SR 4 Bypass interchange
- Widen median to accommodate the future extension of BART between Railroad Avenue and Hillcrest Avenue

Project Background

- The Route 4 improvements beyond Railroad Avenue to Route 160 project was included in the 1998 Regional Transportation Plan (RTP) Track 1. This SR 4 widening project goes beyond the improvements identified in the RTP.
- Included as the Long-Term Recommended Strategy in the 1999 Route 4 East MIS.
- Transportation improvements in the SR 4 East Corridor have been a priority for a long time and were identified in Contra Costa's Measure C ½ cent sales tax measure in 1988.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$400 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- SR 4 is the primary east-west transportation corridor in Contra Costa County. It serves as East County's primary commute and commerce route.
- This project would provide significant additional corridor capacity and a more balanced transportation network with significant HOV and transit mode incentives.
- A movable barrier has been suggested as a near term solution to provide increased capacity in the peak direction.

Project Title

State Route 4 Bypass widening from 2 to 4 lanes from Route 160 to Walnut Blvd. and construction of new grade separations and interchanges along the State Route 4 Bypass

Project Description

Widen State Route 4 Bypass from 2 to 4 lanes from Route 160 to Walnut Blvd.; eliminate temporary at-grade intersections by constructing grade separations; and upgrade signalized intersections to interchanges. Possible interchange or grade-separation locations include:

- Freeway-to-freeway direct connectors from SR 4 Bypass to and from SR 160 north
- Laurel Rd. Extension (tentative)
 - Lone Tree Way
- Relocated Sand Creek Rd.
- Balfour Rd.
- Marsh Creek Rd.
- Walnut Blvd.

Project Background

- The 1998 Regional Transportation Plan (RTP) includes the State Route 4 Bypass—construct a 2-lane facility from Route 4 to Walnut Blvd., upgrade Marsh Creek Rd. and construct a partial freeway to freeway interchange one mile east of Hillcrest at State Route 4/SR 160—as a project with fully committed funding from local housing fees. Phasing plans are currently under discussion.
- The 1998 RTP also includes unspecified segments of the State Route 4 Bypass as an ultimate four-lane freeway facility as a Track 1 project. The Blueprint would accelerate the delivery of this Track 1 project.
- The ultimate configuration for the State Route 4 Bypass includes elimination of at-grade intersections and upgrading to freeway standards.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

- \$30.9 million (1999\$) for upgrading unspecified segments of the State Route 4 Bypass to a four-lane freeway facility
- \$92 million (1999\$) for at-grade intersection upgrades:
 - SR 4/SR 160 to and from the north (\$12 million)
 - Widening to 4 lanes: SR 4/SR 160 to Lone Tree Way (\$10 million)
 - Upgrade Laurel Rd. to an interchange (\$10 million)
 - Lone Tree Way I/C upgrade from partial to full (\$8 million)
 - Widen to four lanes-Lone Tree Way to Balfour Rd. (\$12 million)
 - Interchange at Sand Creek Rd. (\$12 million)
 - Interchange at Balfour Rd. (\$12 million)
 - Interchange at Marsh Creek Rd. (\$8 million)
 - Interchange at Walnut Blvd. (\$8 million)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project will improve the capacity and safety on the Route 4 corridor between Antioch and Brentwood, and will divert traffic away from existing surface streets.
- Traffic demands in this corridor far exceed the capacity of the existing system.
- The State Route 4 Bypass will ultimately connect to SR 239, providing an improved gateway for connections to the Central Valley and destinations south.

Project Title

Widening of SR 4 to six lanes from I-680 to SR 242

Project Description

- Widen a 3-mile segment of SR 4 from 4 lanes to 6 lanes between Pacheco Boulevard (approximately 0.5 miles west of I-680) to Route 242 (approximately 2.5 miles east of I-680).
- Minor modifications are anticipated at the Pacheco Boulevard ramps, I-680 Interchange, Arnold Industrial Way ramps, and at the SR 242 Junction to maintain access and provide adequate traffic operations.
- Bridge structure widening is necessary at the Pacheco Boulevard, I-680, Grayson Creek, Walnut Creek, Solano Way, and Peralta Road crossings.

Project Background

- Proposed improvements are consistent with ongoing improvement projects along the SR 4 East and West corridors.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$14 million (conceptual estimate only)
(1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Sufficient right-of-way is assumed to exist to accommodate the proposed improvements along SR 4.
- These improvements would help relieve congestion along both east and west SR 4.

Project Title

Truck Climbing Lanes on Kirker Pass Road

Project Description

Add a westbound truck climbing lane from Nortonville Road and an eastbound truck-climbing lane from Concord Pavilion.

Project Background

- Included in the County General Plan (1991), the CCTA Countywide, Comprehensive Transportation Plan (1995), and SR 4 Corridor Management Plan (1998).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$4.3 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Grades over Kirker Pass range from 7% to 11%. Truck traffic significantly reduces capacity in the outside lane.
- The proposed improvements will permit slow trucks to move out of the normal traffic lane, thus improving both operations and safety on the roadway.
- Truck climbing lanes will reduce delays and increase safety for vehicles traveling behind slow moving trucks.

Project Title

Pittsburg/Bay Point BART Station Parking Expansion

Project Description

Add 500 parking spaces at the Pittsburg/Bay Point station by acquiring a vacant parcel adjacent to the station and constructing a new surface parking lot.

Project Background

- Submitted for funding under Cycle 1 STP/CMAQ Program (1999).
- Included as part of the analysis of alternatives in 1999 Route 4 East MIS.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$4.3 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Existing parking lot is 100% full by 8:30 AM on weekdays.
- According to the Highway 4 MIS, ridership in the year 2020 without any further extension of BART would increase from an existing ridership of 10,240 riders to approximately 17,250 riders at the Pittsburg/Bay Point station. This estimate is based on an unconstrained parking scenario.
- With improved parking at the station, BART ridership is projected to increase which would help reduce traffic along the SR 4 corridor.

Project Title

BART Extension along SR 4 to Railroad Avenue in
Pittsburg

Project Description

Extend BART service from existing
Pittsburg/Baypoint Avenue in the Route 4 median, a
distance of 3 miles (or a site between Loveridge
Road and Somersville Road, a distance of 5 miles)
and add one station.

Project Background

- Included in MTC's Regional Reconnaissance (1998), Resolution 1876 (planning).
- Included in Phase I, BART Extension Staging Policy.
- Evaluated in a number of BART studies: e.g., Pittsburg-Antioch Corridor Alternatives Analysis/DEIR (August 1988).
- Considered in Route 4 East MIS (April 1999), which recommended as a long-term strategy to construct a median wide enough to allow for future BART extensions.

Proposed Operating Scenario

The BART extension to Pittsburg was assumed to be a one-stop extension with 20-minute headways in the peak period and only limited service in the off-peak.

Estimated Costs

Capital: \$283 million to \$324 million (1999\$)
Total Annual Operating Cost: \$0.0772 million (1999\$)
Farebox Recovery Assumed: \$0.0101 million
(13.08%)
Net Annual Operating Cost: \$0.0671 million

Observations/Issues

- Extending BART easterly will shorten the SR 4 drive and reduce traffic on both SR 4 and local arterials west of the station.
- A new BART stations to the east could provide better bus-rail integration.
- The expected transit demand in the corridor is at the low end for a major rail investment.
- BART extensions involve cost prohibitive freeway widening along the corridor.
- A BART station at Railroad Avenue location could have a significant development potential, primarily for multifamily housing.

Project Title

BART Extension along SR 4 to Hillcrest Avenue in Antioch

Project Description

Extend BART service from proposed station at Railroad Avenue in Pittsburg (or a site near Loveridge Road in Pittsburg) to Hillcrest Avenue in Antioch, a distance of from 4 to 6 miles, along the SR 4 corridor and add one or two stations.

Project Background

- Included in MTC's Regional Rail Reconnaissance and Resolution 1876 (planning).
- Extension Staging Policy.
- Evaluated in a number of BART studies: e.g., Pittsburg-Antioch Corridor Alternatives Analysis/DEIR (August 1988).
- Considered in Route 4 East MIS (April 1999), which recommended as a long-term strategy to construct a median wide enough to allow for future BART extensions.

Proposed Operating Scenario

The BART extension to Antioch was assumed to be over two stops (Pittsburg and Antioch) with 20-minute headways in the peak period and only limited service in the off-peak.

Estimated Costs

Capital: \$257.5 million to \$566.5 million (1999\$)

Total Annual Operating Cost: \$0.44 million - \$0.65 million (1999\$)

Farebox Recovery Assumed: 13%

Net Annual Operating Cost: \$0.39 million to \$0.57 million (1999\$)

Observations/Issues

- Extending BART easterly will shorten the SR 4 drive and reduce traffic on both SR 4 and local arterials west of the station.
- Constructing BART in the median of SR 4 would reduce costs.
- A new BART stations to the east could provide better bus-rail integration.
- The expected transit demand in the corridor is at the low end for a major rail investment.
- BART extensions involve cost prohibitive freeway widening along the corridor.
- A BART station at Railroad Avenue location is likely to have a significant development potential, primarily for multifamily housing.
- This project would require future widening of SR 4 beyond the SR 4 improvements contemplated in the Highway 4 East MIS to provide sufficient median width for BART.

Project Title

Ferry Service from Antioch

Project Description

Operate ferry service from Antioch to San Francisco.

Project Background

- Similar to the evaluation of ferry service from Pittsburg to San Francisco contained in the MTC 1992 San Francisco Bay Area Regional Ferry Plan.

Proposed Operating Scenario

Ferry service involves the use of one vessel capable of traveling at least 35 knots. Travel time from Antioch to San Francisco Ferry Building would be about 85 minutes. Service would consist of one AM peak trip for \$10 round trip fare.

The Bay Area Council did not propose ferry service from Antioch.

Estimated Costs

Capital: \$8.4 million (1999\$)

- \$7.2 million for one vessel
- \$1.2 million for minimal float, shelter, and parking improvements

Total Annual Operating Cost: \$0.695 million (1999\$)

Farebox Recovery Assumed: \$0.2224 million (32% at \$10 round trip fare)

Net Annual Operating Cost: \$0.473 million

Observations/Issues

- Initial projections from the 1992 analysis indicate that this service would not reduce overall transit travel times to San Francisco compared to the bus and BART combination, due to the long water route to San Francisco. With one trip there would be little diversion of highway traffic.
- The 1992 analysis also indicated financial performance would be very poor with the anticipated patronage levels.

Project Title

Express Bus Service in SR 4 and I-680 HOV Lanes
(East Contra Costa County to Pittsburg/Bay Point
BART Station and Tri-Valley)

Project Description

Provide express bus service from East Contra Costa County to the Pittsburg Bay Point BART Station and Tri-Valley area utilizing HOV lanes along SR 4 and I-680.

Project Background

N/A

Proposed Operating Scenario

Provide peak period service operating on 15-minute headways from East Contra Costa County (Brentwood-Bay Point and Antioch/Livermore/Pleasanton) to BART and Tri-Valley area.

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Midday	Peak	Midday
Tri-Delta 391	30	60	15	15
Tri-Delta New	--	--	15	60

Estimated Costs

East Contra Costa to BART:

Capital: \$1.06 million (3 buses) (1999\$)
Total Annual Operating Cost: \$1.33 million (1999\$)
Farebox Recovery Assumed: \$0.21 million (1999\$)
Net Annual Operation Cost: \$1.12 million (1999\$)

East Contra Costa to Tri-Valley:

Capital: \$4.22 million (12 buses) (1999\$)
Total Annual Operating Cost: \$2.03 million (1999\$)
Farebox Recovery Assumed: \$0.33 million (1999\$)
Net Annual Operation Cost: \$1.70 million (1999\$)

Observations/Issues

- By using the HOV lanes on the improved SR 4 and I-680, this express bus service would compete well with the travel time of the single occupant vehicles and eliminate the time spent looking for parking upon arrival at the BART station.
- Given current parking constraints at the Pittsburg/Bay Point BART Station, the service would provide improved station access.

Project Title

Subscription Bus Service on Vasco Road—
Brentwood/Antioch to Tri-Valley

Project Description

Provide 4 daily round trips (until demand increases) to the Tri-Valley area with stops at Livermore Lab, Sandia Lab, and Dublin BART Station. This service would be a subscription service with monthly passes (airline style seats) and daily trips on a space available basis.

Project Background

- Included in the 1998 Regional Transportation (RTP) Track 2.
- ECCTA has been monitoring the need for service along the Vasco Road corridor and with the help of the Labs in the Tri-Valley area are ready for the proposed subscription bus service.

Proposed Operating Scenario

Provide 4 trips AM and 4 trips PM with the driver of the bus employed at a site in the Tri-Valley area. The bus would run the AM service and stay in the Tri-Valley area until the return trip in the PM.

Estimated Costs

Capital: \$3 million (1999\$)

Total Annual Operating Cost: \$192,000 (1999\$)

Farebox Recovery Assumed: 100%

Net Annual Operating Cost: \$0.0

Observations/Issues

- Subscription bus service would serve the major transit markets in the Tri Valley Area with destinations to the Livermore Lab, Sandia Lab and Dublin BART Station.

Project Title

Commuter Rail—Brentwood to Bay Point

Project Description

This commuter rail service could serve as a rail connection to BART. This segment of the extension would use the Union Pacific tracks from Brentwood to Pittsburg and a spur track along the median at Bailey Road to the BART station. This segment would be between 15.7 and 16.9 miles in length depending on the route chosen.

Project Background

- In 1993, Southern Pacific operated commuter rail service between Pittsburg and Brentwood as a demonstration project.
- The Greater East Bay Rail Opportunities Commission further evaluated the service in 1994. This latter study only examined rail service from Solano County through Martinez to Richmond and connection to BART at this location.

Proposed Operating Scenario

Service is anticipated to consist of up to two cars per “train” during the AM and PM peak periods.

Estimated Costs

Capital:

- \$40 to \$60 million for track work (1999\$)
- \$15 million for vehicles (2 trains, 3 DMUs each) (1999\$)

Total Annual Operating Cost: Estimated \$2.1 to \$2.5 million (1999\$) (without Tracy-Brentwood extension)

Farebox Recovery Assumed: 13%

Net Annual Operating Cost: \$1.83 million to \$2.18 million (1999\$)

Observations/Issues

- Commuter rail service would service the communities between Brentwood and Bay Point, providing a transit alternative along the SR 4 corridor.

Project Title

ACE Branch Line—Brentwood to Tracy

Project Description

This commuter rail service would serve as a rapid connection to BART, augmenting local bus service. The rail service extension covers the 21 miles between Tracy and Brentwood on existing Union Pacific tracks. A new station in Byron would be constructed.

Project Background

- In 1993, Southern Pacific operated commuter rail service between Pittsburg and Brentwood as a demonstration project. The Greater East Bay Rail Opportunities Commission further evaluated the service in 1994. This latter study only examined rail service from Solano County through Martinez to Richmond and connection to BART at this location.

Proposed Operating Scenario

Service would originate from the ACE station in Tracy. Service is anticipated to consist of up to two cars per “train” during the AM and PM peak periods. One of the two AM peak trains would provide service to the Pittsburg/Bay Point BART station.

Estimated Costs

Capital:

- \$15 million for vehicles (2 trains, 3 DMUs each) (1999\$)
- \$0.5 million for Byron Station (1999\$)
- \$1.2 million for Byron Siding (1999\$)
- TBD for Trackage Rights

Total Annual Operating Cost: \$2.3 million (includes Brentwood to Bay Point) (1999\$)

Farebox Recovery Assumed: \$0.345 million to \$0.805 million (varies from 15% to 35%)

Net Annual Operating Cost: \$1.495 million to \$1.955 million

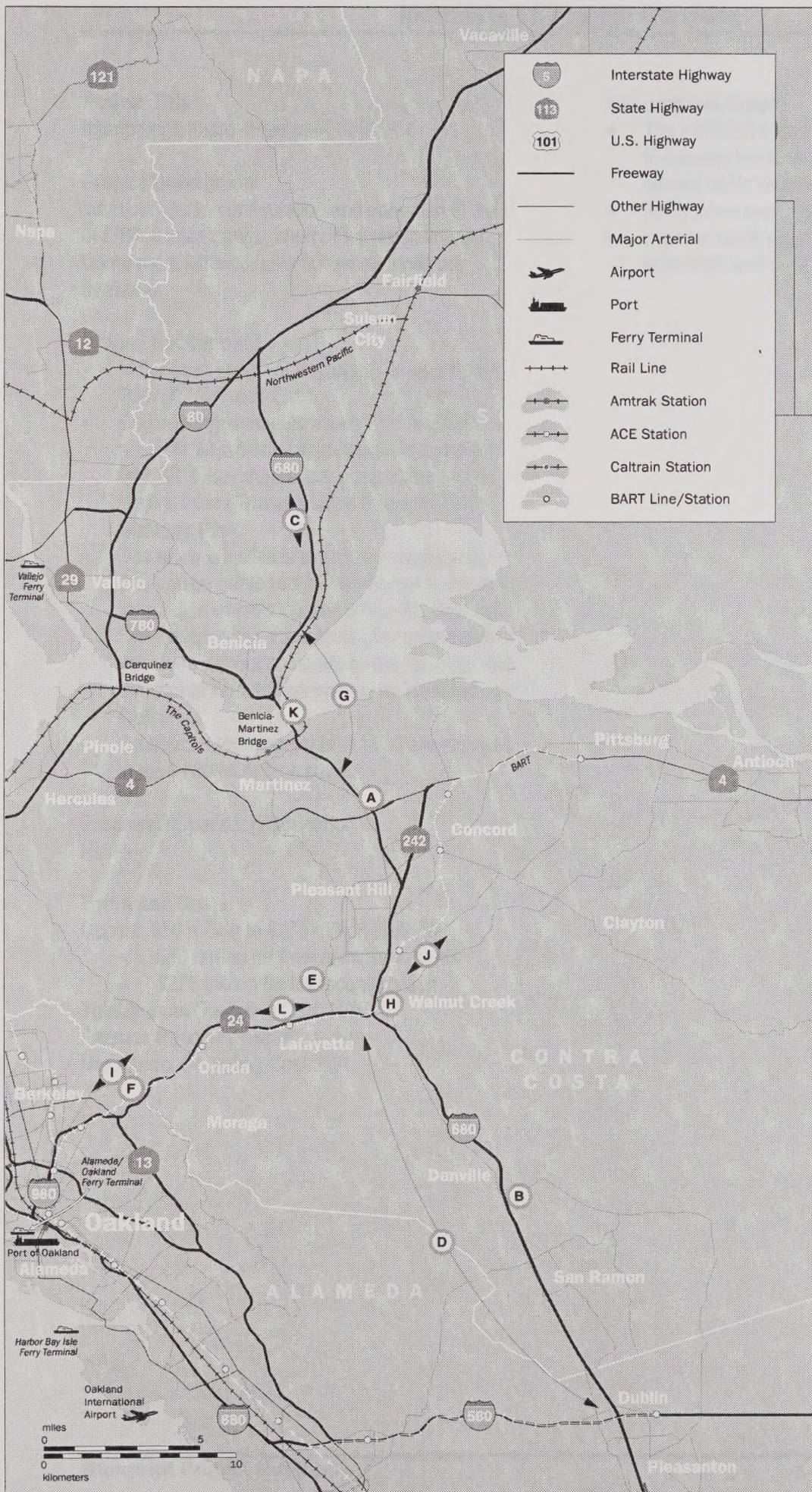
Observations/Issues

- Union Pacific minimally maintains this unutilized line. Sidings may be required if Union Pacific reintroduces freight traffic back on this line.
- This project would involve sharing costs with ACE.
- Commuter rail service would service the communities between Tracy and Brentwood, providing a transit alternative along the SR 4 corridor.

Section G

**Interstate
680 North
Corridor**

Interstate 680 North Corridor



- A** Interchange Reconstruction — I-680/SR 4
- B** Interchange Improvements — I-680/El Pintado Rd. (+ others not mapped)
- C** Widening of I-680 from Benicia Bridge to I-80
- D** Auxiliary Lanes along I-680 between I-580 and SR 24
- E** Realignment of Taylor Blvd. and Pleasant Hill Rd.
- F** Construction of Caldecott Tunnel Fourth Bore
- G** Express Bus Service — Solano County to East Bay (I-680)
- H** Employee Shuttles to and from Walnut Creek BART Station
- I** Subscription Bus Service through Caldecott Tunnel
- J** Express Bus Service in Central Contra Costa County
- K** Light Rail on Benicia Bridge
- L** Additional BART Parking in I-680/SR 24 Corridor

Not Mapped:

- Freeway-to-Freeway Connector Improvements:
 - Westbound SR 4 to Southbound SR 242
 - Southbound SR 242 to Southbound I-680
 - Westbound SR 4 to Southbound I-680

Project Title

Interchange Improvements—I-680/SR 4

Project Description

Improve interim configuration and operation of the I-680/SR 4 interchange, short of full reconstruction. Complete a full reconstruction when funds are available.

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 2.
- Engineering studies to assess the feasibility of possible incremental improvements to the I-680/SR 4 interchange are programmed in the Contra Costa Transportation Authority 1998 Strategic Plan.
- The study purpose is to define improvements that can be made to the interchange in the near term, short of full reconstruction. It is believed that the operations and level of service can be improved without constructing the "ultimate" full-directional interchange previously identified by Caltrans.
- Operations improvements to I-680 are included in the I-680 HOV lane project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$50 million to \$275 million (1999\$)

- \$50 million for interim improvements
- \$275 million for full reconstruction

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The I-680/SR 4 interchange is an older freeway-to-freeway interchange with poor design for current traffic volumes.
- Ramps and merging lanes are short.
- Improvements would benefit traffic operations on both I-680 and SR 4.

Project Title

Interchange Improvements—I-680

- El Pintado Road
- Miscellaneous

Project Description

Construct on-ramp to southbound I-680 and off-ramp from northbound I-680 at the I-680/El Pintado interchange, and widen ramps and improve interchange configurations at various interchanges along I-680 where needed.

Project Background

N/A

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$20 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Interchange improvements are needed to smooth traffic operations on I-680.

Project Title

Widening of I-680 from Benicia Bridge to I-80

Project Description

Add a mixed-flow lane on I-680 in both the northbound and southbound directions (total of 3 lanes in each direction) between the I-680/I-780 interchange (Benicia Bridge) to I-680/I-80 interchange.

Project Background

- Included as an alternative scenario in the I-680/I-80/I-780 Triangle Area Study (1997) (prepared for CCTA by Korve Engineering) to assess the effect of additional capacity on I-680 between the I-680/I-80 interchange and the I-680/I-780 interchange.
- Additional lane was evaluated as a mixed-flow lane, rather than an HOV lane, as the relatively high travel speeds on I-680 would not provide substantial travel time savings for HOV users.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$57.2 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Improvements to the I-680 northbound to the I-80 eastbound merge should be considered prior to the provision of an additional lane on I-680.
- The widening of I-680 would not adversely affect the operating conditions at the merge or on I-80.

Project Title

Auxiliary Lanes along I-680 between I-580 and SR 24

Project Description

Construct auxiliary lanes in various locations along I-680 between I-580 and SR 24.

Project Background

- Auxiliary lanes are included in the 1998 Regional Transportation Plan Track 1 between Diablo Road and Bollinger Canyon Road. The Blueprint would accelerate the delivery of this segment.
- Preliminary results from the Central Contra Costa Arterial and Ramp Metering Study indicate that congestion on I-680 south of the I-680/SR 24 interchange will worsen in the future affecting mainline operations up and down the I-680 corridor.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$150 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Auxiliary lanes in various locations would help improve traffic flows along this corridor.

Project Title

Realignment of Taylor Boulevard and Pleasant Hill Road

Project Description

Realign Taylor Boulevard and Pleasant Hill Road as a safety measure to reduce accidents and improve driver safety.

Project Background

- Included in the Contra Costa Transportation Authority 1998 Strategic Plan to ascertain possible realignment scenarios.
- Contra Costa County initiated the preliminary investigation of the intersection. No additional capacity is anticipated at this time.
- Initial fund sources include Measure C, developer fees, and other local, state and federal funds.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$5 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Realignment will address safety issues at this intersection, which connects the Cities of Pleasant Hill and Lafayette and Contra Costa County.
- There have been a number of fatal and other serious accidents at this junction, particularly during the winter months when the weather, lack of visibility and pavement conditions create hazardous conditions.

Project Title

Construction of Caldecott Tunnel Fourth Bore

Project Description

Add a fourth bore through the Caldecott Tunnel.

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 2.
- Assemble Bill 2010 introduced by Assemblywoman Lynne Leach in 1998 to request Caltrans to perform a study a new fourth bore for the Caldecott Tunnel died in the Legislature.
- Several written requests were subsequently submitted urging MTC to undertake such a study instead. MTC completed a brief evaluation entitled *Route 24/Caldecott Tunnel Corridor Study Discussion Paper* in 1998.
- In 1999 MTC initiated a corridor study of the entire Route 24 corridor, from Route 24/I-580 junction in Oakland through the Caldecott Tunnel to the Route 24/I-680 interchange in Walnut Creek. The corridor study will analyze the feasibility of a new tunnel bore while also addressing the functions of transit, carpooling, freight, and local streets in the corridor. Study will be completed by Summer 2000.

Proposed Operating Scenario

N/A

Estimated Costs

Alternative	Capital Cost ¹ (2001\$) (millions)	Annual Operation & Maintenance Cost ² (2001\$) (millions)
2-lane bore, similar to existing 3 rd bore	\$152.0	\$0.6
2-lane bore with standard shoulder widths	\$185.0	\$0.6
2-lane bore with standard shoulder widths & bike lane	\$307.0	\$0.7
3-lane bore with standard shoulder widths ³	\$351.0	\$0.7
3-lane bore with standard shoulder widths & bike path ³	\$401.0	\$0.8

¹Includes design, engineering, right of way and environmental mitigation costs

²Assumes elimination of crew needed to switch 3rd bore direction

³Includes auxiliary lane between Camino Pablo in Orinda and SR 13 in Berkeley

Observations/Issues

- A new fourth bore would most likely be located to the north of the existing bores and would balance existing lane capacity by providing an equal number of lanes in the westbound and eastbound directions all day long.
- Environmental issues with a new bore include potential impacts on: local traffic and circulation, freeway noise, disposal of excavated materials, native plants and wildlife, and any geologic issues that are different from those encountered with the previous bores.
- Transit and traffic management strategies for the Route 24 Corridor are also being analyzed (see other Blueprint proposals) but have not yet been developed in detail.

Project Title

Express Bus Service from Solano County to East Bay (I-680)

Project Description

Increase existing service between the Fairfield/Vacaville area along the I-680 into Contra Costa County and service between Vallejo, Benicia, and Pleasant Hill.

Add park-and-ride and intermodal facilities as a necessary adjunct.

Project Background

- Proposed in Solano Intercity Transit Concept Plan (1995).
- Limited service currently provided by Solano BART Express Route 40.
- Limited service currently provided by Benicia Transit.
- Existing park-and-ride lots include: Curtola and Lemon Park-and-Ride and Sereno Bus Transfer Center/Park-and-Ride (Vallejo); Vacaville Regional Transportation Center (Vacaville); and Magellan Park-and-Ride and I-680/Gold Hill Road Park-and-Ride (planned) (Fairfield).
- Existing intermodal facilities in Vallejo include Downtown Transfer Center and Intermodal Ferry Terminal.

Proposed Operating Scenario

- Provide 20-minute peak period headway and 7 buses for the peak period Vacaville-Fairfield-Contra Costa County service.*
- Provide 15-minute peak period headway and hour midday headway and 7 buses for the peak period Vallejo-Benicia-Pleasant Hill service.*
- Provide 15-minute peak period headway and hour midday headway for the Fairfield Route 40 service from Vacaville/Fairfield to Pleasant Hill BART.

* Proposed in Solano Intercity Transit Concept Plan (1995)

Estimated Costs

Vacaville-Fairfield-Contra Costa:

Capital: \$2.46 million (1999\$) (7 buses)
Total Annual Operating Cost: \$687,000 (1999\$)
Farebox Recovery Assumed: 36%
Net Annual Operating Cost: \$437,000

Vallejo-Benicia-Pleasant Hill:

Capital: \$2.46 million (1999\$) (7 buses)
Total Annual Operating Costs: \$884,000 (1999\$)
Farebox Recovery Assumed: 48%
Net Annual Operating Costs: \$488,000

Vacaville/Fairfield to Pleasant Hill BART:

Capital: \$2.11million (1999\$) (6 buses)
Total Annual Operating Costs: \$1.10 million (1999\$)
Farebox Recovery Assumed: \$0.32 million (1999\$)
Net Annual Operating Costs: \$0.78 million (1999\$)

Capital for park-and-ride and intermodal facilities:
TBD

Observations/Issues

- Upgrading express bus service from Solano County to Contra Costa County would expand travel options for commuters.
- Express bus services provide improved travel times compared to local services to workplaces and other destinations.

Project Title

Employee Shuttles to and from Walnut Creek BART Station

Project Description

Operate employee shuttle bus service to and from Walnut BART Station to neighboring employment centers and residential areas.

Project Background

N/A

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$348,000 (1999\$)

Total Annual Operating Cost: \$17,400* (1999\$)

Farebox Recovery Assumed: 0%

Net Annual Operating Cost: \$17,400 (1999\$)

*Assume 10 employees would be involved with one shuttle for each employer, and shuttles would be free.

Observations/Issues

- Employee shuttle buses from the Walnut Creek BART station will serve growing employment centers in Walnut Creek as well as travel from the neighborhoods to nearby employment centers.
- There is potential for "smart" shuttles, which could serve multiple origins and destinations as contrasted to a fixed route service.
- A new shuttle service is being proposed between Bishop Ranch in San Ramon and Walnut Creek BART which would meet every train.

Project Title

Subscription Bus Service through Caldecott Tunnel

Project Description

Add a new "reverse commute" morning bus service between points in Oakland, Berkeley, and Emeryville and destinations in Central Contra Costa County traveling through the Caldecott Tunnel.

Project Background

- Evaluated in Route 24/Caldecott Tunnel Corridor Study.

Proposed Operating Scenario

Provide 15-minute peak service.

Estimated Costs

Capital: \$3.9 million (11 buses) (1999\$)

Total Annual Operating Cost: \$0.96 million (1999\$)

Farebox Recovery Assumed: \$0.16 million (17%)

Net Annual Operating Cost: \$0.80 million (1999\$)

Observations/Issues

- Introducing new subscription bus service through this corridor expands travel options for commuters.
- BART only carries 14% of eastbound trips through the Caldecott Tunnel in the morning due to the dispersed Contra Costa County employment sites, which are difficult to access from BART.
- More targeted subscription bus service through the tunnel to specific employment sites could help relieve traffic demands through the two-lane Tunnel bore in the morning and improve access to jobs, such as in the San Ramon Valley.

Route	From	To	Frequency	Notes
1	Oakland	Emeryville	15 min	
2	Oakland	Emeryville	15 min	
3	Oakland	Emeryville	15 min	
4	Oakland	Emeryville	15 min	
5	Oakland	Emeryville	15 min	
6	Oakland	Emeryville	15 min	
7	Oakland	Emeryville	15 min	
8	Oakland	Emeryville	15 min	
9	Oakland	Emeryville	15 min	
10	Oakland	Emeryville	15 min	
11	Oakland	Emeryville	15 min	
12	Oakland	Emeryville	15 min	
13	Oakland	Emeryville	15 min	
14	Oakland	Emeryville	15 min	
15	Oakland	Emeryville	15 min	
16	Oakland	Emeryville	15 min	
17	Oakland	Emeryville	15 min	
18	Oakland	Emeryville	15 min	
19	Oakland	Emeryville	15 min	
20	Oakland	Emeryville	15 min	

Project Title

Express Bus Service in Central Contra Costa County

Project Description

Provide significant service upgrades for routes in the I-680 North corridor.

Project Background

N/A

Proposed Operating Scenario

Proposed express bus service would provide service in intra-Central Contra Costa County (Brentwood-Bay Point, Walnut Creek-San Ramon, San Ramon-Dublin BART, Peasant Hill-Walnut Creek, and along Ygnacio and Treat Boulevards) and from Central Contra Costa to North Oakland/Berkeley.

Estimated Costs

Intra-Central Contra Costa:

Capital: \$5.98 million (1999\$)

Total Annual Operating Cost: \$3.61 million (1999\$)

Farebox Recovery Assumed: \$0.58 million (1999\$)

Net Annual Operating Cost: \$3.03 million (1999\$)

Central Contra Costa to North Oakland/Berkeley:

Capital: \$4.22 million (1999\$)

Total Annual Operating Cost: \$1.46 million (1999\$)

Farebox Recovery Assumed: \$0.24 million (1999\$)

Net Annual Operating Cost: \$1.22 million (1999\$)

Observations/Issues

- Enhanced express bus service is intended to more directly serve growing employment markets along this corridor.
- Increased transit capacity along this congested corridor, particularly with connections to BART stations, will help relieve traffic.

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Midday	Peak	Midday
Intra Central Contra Costa				
CCCTA 121	30	30	15	30
CCCTA 960	16	--	15	30
CCCTA 970	20	--	15	30
CCCTA 930	20	--	10	15
CCCTA 115	25	46	10	15
Central Contra Costa to N. Oak/Berkeley				
CCCTA New	--	--	15	30

Project Title

Light Rail on the Benicia Bridge

Project Description

The new Benicia Bridge will have the capacity to accommodate a light rail service on the structure.

Project Background

- The Long Range Rail Alignment Report for the I-80 and I-680 Corridors reviewed many of the possible alignments that could be used for light rail service across the Benicia and Carquinez Replacement Bridges.

Proposed Operating Scenario

New Benicia Martinez Bridge – A 9 mile route between North Concord BART station and Benicia at an estimated cost of \$380-\$640 million.

Estimated Costs

Capital: \$380 - \$640 million (1999\$)

Total Annual Operating Cost: \$9.5 million

Farebox Recovery Assumed: 11.5%

Net Annual Operating Cost: \$8.6 million

Observations/Issues

- The options for light rail service on the Benicia and Carquinez Bridges have been preserved through Caltrans' design of the two bridges.
- Ridership to justify these rail projects is not expected to develop in the short term.

Project Title

Additional BART parking in the I-680/SR 24 Corridor

Project Description

Provide additional BART parking in the I-680/SR 24 Corridor.

Project Background

- In 1999 MTC initiated a corridor study of the entire Route 24 corridor, from Route 24/I-580 junction in Oakland through the Caldecott Tunnel to the Route 24/I-680 interchange in Walnut Creek. The corridor study will analyze the feasibility of a new tunnel bore while also addressing the functions of transit, carpooling, freight, and local streets in the corridor. The corridor study will be completed by June 2000.
- One element of this corridor study is to identify corridor improvement strategies. Some lower cost improvements for additional BART parking include leasing private spaces near the stations, and improving BART station Kiss and Ride access. The higher cost improvement includes expanding BART parking lots, such as at the Orinda and Lafayette stations.

Observations/Issues

- Providing additional BART parking along this corridor would encourage more morning BART users since the lots are full by 8:00 AM.
- Additional parking would also benefit riders who take BART during the shoulders of the peak and currently cannot find parking spaces.
- Parking expansions would need to be evaluated in terms of cost, visual impacts, and local traffic impacts. Private spaces may not be available.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: TBD*

*cost per new leased space will range from \$3,000 to \$4,000 (assumes no right-of-way acquisition costs)

*cost for structural parking can approach \$15,000 to \$20,000 per space, depending on design

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Freeway-to-Freeway HOV Connector Improvements

Project Description

Includes Freeway-to-Freeway High- Occupancy Vehicle (HOV) direct connectors at the following three potential locations:

- Westbound SR 4 to Southbound SR 242
- Southbound SR 242 to Southbound I-680
- Westbound SR 4 to Southbound I-680

Project Background

- This project is needed to close remaining gaps in the HOV system for I-680 North. Current 1998 Regional Transportation Plan (RTP) Track 1 improvements will add HOVs on SR 4 from Loveridge Road to SR 242, and on I-680 from the Benicia Martinez Bridge to South Main. However, making the connection from SR 4 to I-680 will require that HOVs and express buses weave across the freeway from the left-hand HOV lane to the right-hand exit, causing additional delays to mixed flow traffic, and reducing time savings for HOVs.
- Direct HOV connectors would eliminate weaving and improve time savings for HOVs and express buses, thereby making these modes more attractive than the SOV.

Proposed Operating Scenario

Exclusive left-hand HOV flyovers, similar to the existing HOV connector on Westbound I-80 to the Bay Bridge, would allow HOVs to remain in the left lane, exit left, and come down in the left-hand HOV lane of the connecting facility. This would provide added time savings for HOVs and express buses.

Estimated Costs

Capital: \$75 million (1999\$)

(estimated \$25 million for each set of direct connectors)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Time savings for HOVs and express buses is critical for encouraging commuters to use these modes instead of SOVs.
- The time savings advantage for commuters using the planned HOVs in Track 1 of the RTP (on SR 4 from Loveridge Road to SR 242, and on I-680 from the B/M Bridge to South Main) could be dramatically improved by providing direct freeway-to-freeway HOV connectors.
- Forecasts indicate that the mixed flow lanes on SR-4 and I-680 will be congested by the year 2020, even with planned improvements. HOV lanes provide an incentive for people to carpool and take transit to avoid congestion.
- As currently planned, HOVs and express buses trying to weave across the freeway to enter an HOV lane, will add to congestion in the mixed flow lanes, and significantly increase travel time for HOVs. This project offers a way of improving the time savings for HOVs.

Section H

**Interstate
580
Corridor**

Interstate 580 Corridor

- A** New HOV Lanes—Tassajara Rd./Santa Rita Rd. to Vasco Rd.
- B** Westbound Truck Climbing Lane Through Altamont Pass
- C** New West Dublin BART Station
- D** BART Extension to Livermore
- E** Enhanced Rapid Bus Service in Tri-Valley Area (I-580)
- F** I-238/I-580 Interchange Truck Bypass Lanes
- G** I-580/I-680 Interchange Improvements (WB I-580 to SB I-680)

Note: See I-680 South Corridor for ACE Commuter Rail Enhancements

	Interstate Highway
	State Highway
	U.S. Highway
	Freeway
	Other Highway
	Major Arterial
	Airport
	Port
	Ferry Terminal
	Rail Line
	Amtrak Station
	ACE Station
	Caltrain Station
	BART Line/Station



Project Title

I-580 HOV Lanes (Tassajara Rd./Santa Rita Road to Vasco Road)

Project Description

Provide EB and WB HOV lanes from Tassajara Rd./Santa Rita Road to Vasco Road, a distance of 8 miles. Additional right-of-way may be required.

Project Background

- The PSR's being prepared for I-580 interchange improvements will include consideration of HOV lanes.
- Project is included in MTC's 1997 *HOV Lane Master Plan Update* for evaluation
- The Tri Valley Transportation Development Fee (TVTDF) program allocates \$8 million for the project.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$41.2 to \$82.4 million (1999\$)* *Will depend on length and relationship to upgrade of interchanges.

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Viability of HOV lanes is based on the following factors: traffic volumes are rapidly increasing and congestion levels mounting; the County's Gateway Policy limits I-580 capacity increases to HOV lanes; and operation of subscription bus services would benefit from HOV lanes especially when these lanes are connected to existing and programmed HOV lanes on I-680.
- Geometric constraints and traffic operational impacts associated with the I-580/I-680 interchange and its approaches would make a direct freeway-to-freeway HOV connection (WB I-580 to SB I-680) infeasible.
- The project needs a refinement of scope to determine project limits, staging and costs.
- Project could improve HOV/bus access to East Dublin/Pleasanton BART station.

Project Title

Westbound Truck Climbing Lane Through
Altamont Pass

Project Description

Construct a westbound - truck lane from the I-580/I-205 interchange to North Flynn Road at the summit of the Altamont Pass a distance of approximately 6.5 miles

Project Background

- Project was identified in *Altamont Interregional Corridor Transportation Study* (October 1996).
- Caltrans is currently rescoping a westbound truck bypass lane at the I-580/I-205 interchange (\$10 million has been programmed for this project).
- Caltrans is developing a longer-range plan to incrementally construct a westbound truck passing lane from the I-580/I-205 interchange to the Altamont summit (North Flynn Road).

Proposed Operating Scenario

Facility may be on separate right-of-way and used exclusively by trucks

Estimated Costs

Capital: \$39.88 to \$56.97 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Current Alameda County policy designating the Altamont as a "gateway" (limit I-580 expansion to HOV and truck lanes only) combined with rapid growth in traffic volumes through the pass support the truck lane concept.
- Design and operational issues include location (on separate right-of-way?) hours of operation?, safety (merging of autos and trucks at end of lane) affects on downstream traffic on I-580 and exclusivity of use (trucks only?)
- An eastbound truck lane from Greenville Road to the summit is a longer-range consideration

Project Title

New West Dublin BART Station

Project Description

Construct a new BART Station on the BART line adjacent to Downtown Dublin, just west of I-680. The project would include a convention center, hotel meeting facilities.

Project Background

- The project is being pursued as a joint public/private venture involving BART, the City of Dublin and a private developer. The financing plan is currently being negotiated.
- Funding for \$38.4 million is included in Tier 2 of the 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000. (Measure B did not pass in 1998.)

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$43.0 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Station would provide improved accessibility to BART for West Dublin/Pleasanton and San Ramon Valley commuters.
- Improved access to BART could increase convenience of using BART as a travel mode in corridor.
- While station would relieve parking pressures on existing East Dublin-Pleasanton BART station, traffic would increase on Dublin arterials accessing the new station.

Project Title

BART Extension to Livermore

Project Description

Extend BART service from East Dublin/Pleasanton station to eastern Livermore along I-580, a distance of approximately 10 miles.

Project Background

- Project is in Phase II of BART Extension Staging Policy
- Project is in MTC Resolution No. 1876 (for planning)
- Project has been evaluated in a number of BART studies: eg., Livermore-Pleasanton Extension Study, Supplemental Analyses (February 1986)
- The preferred alignment was adopted in October 1991

Proposed Operating Scenario

Maintain current headways on Dublin/Pleasanton line of 15 minutes during peak periods. Add two stations east of Dublin/Pleasanton station. A Greenville Station site could provide an intermodal transfer connection to ACE, LAVTA, and other bus services.

Estimated Costs

Capital: \$824 million to \$1.03 billion (1999\$)
Total Annual Operating Cost: \$995,000 (1999\$)
Farebox Recovery Assumed: \$129,350 (1999\$) (13%)
Net Annual Operating Cost: \$865,650 (1999\$)

Observations/Issues

- Extension will provide BART service for residents and workers in Livermore.
- Extension will provide an alternative to automobiles and assist in reducing congestion on I-580
- Eastern terminus is still uncertain; there is increasing interest in extending the service to connect with ACE in East Livermore to provide a seamless rail connection between the Central Valley and the Bay Region.
- Integration of land use plans with a future extension would be important.

Project Title

Enhanced Rapid Bus Service in Tri-Valley Area (I-580)

Project Description

Enhance rapid bus service from San Joaquin to Tri-Valley, Intra Tri-Valley (Livermore-Dublin BART and Stanley Blvd.), and Tri Valley to Central San Mateo and Alameda (Pleasanton-San Mateo).

Project Background

N/A

Proposed Operating Scenario

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
San Joaquin to Tri Valley (Dub/Pleas BART)				
SMART new	--	--	30	60
Intra Tri-Valley				
LAVTA 12	30	30	15	15
LAVTA 20X	30	0	15	60
LAVTA 10	15	30	10	15
LAVTA 10	60	30	30	30
Tri-Valley to Central San Mateo / Alameda				
LAVTA New	--	--	15	60

Estimated Costs

San Joaquin to Tri-Valley, Dub/Pleas BART

Capital: \$2.0 million (1999\$) (6 buses)

Total Annual Operating Cost: \$2.0 million (1999\$)

Farebox Recovery Assumed: \$0.50 million

Net Annual Operating Cost: \$1.50 million (1999\$)

Intra Tri-Valley

Capital: \$1.76 million (1999\$) (5 buses)

Total Annual Operating Cost: \$1.90 million (1999\$)

Farebox Recovery Assumed: \$0.27 million

Net Annual Operating Cost: \$1.63 million (1999\$)

Tri-Valley to Central San Mateo/Alameda

Capital: \$6.34 million (1999\$) (18 buses)

Total Annual Operating Cost: \$2.95 million (1999\$)

Farebox Recovery Assumed: \$0.42 million

Net Annual Operating Cost: \$2.53 million (1999\$)

Observations/Issues

- Rapid bus service from San Joaquin into the Tri-Valley would provide an important inter-regional transit link at an affordable price in an increasingly congested corridor. Alameda County has a gateway policy restricting additional freeway lanes over the Altamont Pass– this would provide more people moving capacity within this constraint.
- Rapid bus service from the Tri-Valley to central San Mateo would provide an intra-regional transit link to a growing job market not served well by current services
- Enhanced rapid bus service within the Tri-Valley will provide an improved transit link between the two largest cities in the Tri-Valley. Increased transit service will provide an alternative travel option to I-580 and local streets
- A number of subscription buses currently operate successfully in this corridor, and additional such services are being assessed.

Project Title

Truck Bypass Lanes on I-238 through the I-580/I-238 Interchange

Project Description

Construct westbound and eastbound truck bypass lanes on I-238 through the I-580/I-238 interchange a distance of approximately one-half mile. Project will require additional right-of-way and may involve significant modification to the existing interchange

Project Background

- Project was included in I-238 *Widening Project Study Report* (September 1997).
- Bypass lanes constitute Phase III (Long Term) of the I-238 widening project currently being studied
- Design concepts are very preliminary.
- I-238 widening (4 to 6 lanes) in the westbound direction is programmed; widening (4 to 6 lanes) in the eastbound direction is included in Track 1 of the RTP.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$88 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recover Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The I-580/I-238 corridor is a major conduit for truck movement between the Central Valley and the Port of Oakland; the I-580/I-238 interchange is a critical bottleneck due in part to discontinuity in lane capacity (8 lanes on I-580, 4 lanes on I-238)
- Bypass lanes, combined with planned widening of I-238 to 6 lanes, will assist in reducing congestion at the interchange by separating truck and automobile traffic
- Preliminary design concepts are complex and expensive
- Widening of I-238 to 6 lanes (I-580 to I-880) is an essential first step if the bypass lanes are to be constructed.

Project Title

I-580/I-680 Interchange Improvements
(WB I-580 to SB I-680)

Project Description

Widen the westbound to southbound loop to two lanes, grade separation of the on/off weaving movements on the collector-distributor roadway under I-680 and an optional HOV bypass on the loop ramp.

Project Background

- 560/680 SB to EB direct connector ramp, including "hook ramp" connections to Dublin, is already under construction, scheduled for completion in 2001. WB I-580 to SB I-680 project is being analyzed as part of the "moderate cost package" of improvements under review in the I-680 MIS Phase 2.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: TBD

Total Annual Operating Costs: N/A

Farebox Recover Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

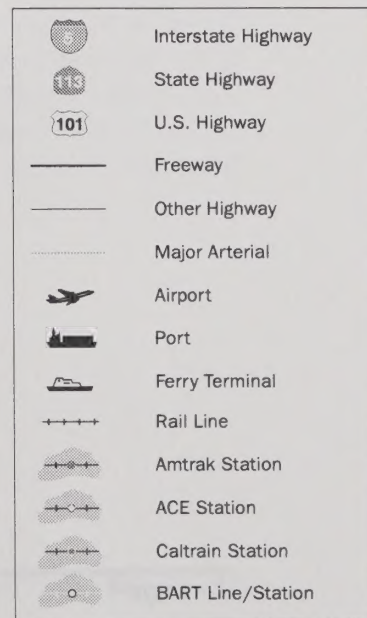
- The I-680 MIS Phase 2 will include operational analyses of "Moderate" and "High" cost packages of improvements, including both highways and transit projects. Other "Moderate" cost projects include HOV lanes on I-580, a NB HOV lane on I-680, widening of Rte. 84, and interchange improvements at I-580 / Isabel and I-680 / Mission, and improvements in ACE, VTA and express bus services to the Silicon Valley.

Section I

**Interstate
680 South
Corridor**

- A** New I-580/SR 84 Interchange
- B** SR 84 Expressway
- C** I-880/I-680 Cross Connector
(alignment TBD)
- D** I-680 HOV Lanes: Contra
Costa County Line to SR 84
- E** I-680 Sunol Grade
Northbound HOV Lane

- Sustain and Enhance ACE Service
- Express Bus Service (Tri-Valley to Silicon Valley)
- Expanded LAVTA Subscription Bus Service (Tri-Valley to Northern Santa Clara County)



Project Title

New I-580/SR 84 Interchange

Project Description

Construct a new interchange approximately three quarters of a mile east of existing I-580/Airway Boulevard interchange. The Interchange would be built in stages, the ultimate configuration consisting of a 6 lane overcrossing and signalized off ramps. The project includes the removal of ramps at the adjacent Portola Avenue interchange (to the east) and construction of a new roadway connection to North Canyon's Parkway and Portola Avenue on the north side of I-580. The interchange will connect the northerly extension of Isabel Avenue (new SR 84 Expressway) to I-580

Project Background

- A Project Study Report (PSR) has been completed and approved by Caltrans
- TEA-21 provides \$9.9 million for the project
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 will provide \$20 million in Tier 1 for the interchange. (Measure B did not pass in 1998.)
- No Tri Valley Transportation Development Fees (TVTDF) are currently designated for this project

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$55.0 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This interchange will be required to make the planned SR 84 (Isabel Avenue/Vallecitos Road) 4 to 6 lane expressway function effectively.
- In combination with new SR 84 Expressway, the project will provide bypass of I-580-I-680 interchange and relieve traffic congestion on portions of I-680 and I-580
- Proximity of new interchange to Airway Blvd. may cause operational problems on I-580

Project Title

SR 84 Expressway (I-580/I-680 Bypass)

Project Description

Extend Isabel Avenue north to connect with new interchange at I-580 and widen Isabel Avenue to 6 lanes and Vallecitos Road to 4 lanes to provide a continuous 10-mile expressway between I-580 and I-680. The project will be built incrementally. Currently, Isabel Avenue is being widened to 2 lanes throughout; safety improvements, including passing lanes through Pigeon Pass, will be implemented on Vallecitos Road.

Project Background

- The initial 2 lane widening of Isabel Avenue, with a connection to I-580 at Airway Boulevard, is under construction and will be completed in 2000
- Measure B (1986) is the primary source of funding for this first stage.
- The Tri Valley Transportation Development Fee (TVTDF) allocates \$24 million in future funds for future stages.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 includes \$70 million for the bypass. (Measure B did not pass in 1998.)

Proposed Operating Scenario

- Feasibility of HOV lanes in the long range should be evaluated

Estimated Costs

Capital: \$120 million (for 4 lane facility) to \$180 million for (6 lane facility) (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The project would provide improved access to/from southwest Livermore including the new Ruby Hill development in Pleasanton
- In combination with new SR 84/I-580 interchange, the project will provide a bypass of I-580/I-680 interchange and relieve traffic congestion on portions of I-680 and I-580
- Upgraded Isabel Avenue will improve access for trips with origins/destinations in the Isabel corridor

Project Title

I-880/I-680 Cross Connector

Project Description

Provide an improved roadway connection between I-880 and I-680 in Fremont or Milpitas. Connection could be by means of an upgraded existing facility or a new expressway/freeway. Depending on alternative selected project may require improvements to existing freeway interchanges or new interchanges

Project Background

- Caltrans prepared a Project Study Report (PSR) in November 1990. It identified 6 alternatives for further consideration
 - Jacklin Road
 - Scott Creek Road
 - Mission Blvd. (existing alignment SR 262)
 - Mission Boulevard (new alignment)
 - Fremont Boulevard
 - Durham Road
- In March 1998, the Alameda County CMA's consultant study, *Mission Boulevard Express Lane Feasibility Study* concluded that a 2 lane elevated expressway on Mission Boulevard (UP to I-680) was feasible.
- MTC is reviewing operational issues associated with this cross connector as part of the I-680 Phase 2 MIS.
- VTA plans to fund a major investment study with \$1 million in local sources.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) includes \$1.0 million, to be combined with \$1.0 million in other funding sources, to complete a Major Investment Study. (Measure B did not pass in 1998.)

Proposed Operating Scenario

N/A

Estimated Costs

Capital: TBD (depends on alignment, capacity, employment of elevated structures, provision of grade separation and need for interchange improvements)

- Initial estimates based on aforementioned studies show a range from \$75.2 million (1999\$) (2 lane elevated expressway on Mission) to \$360.5 million (1999\$)
Total Annual Operating Costs: N/A
Farebox Recovery Assumed: N/A
Net Annual Operating Costs: N/A

Observations/Issues

- Lack of roadway capacity in the corridor connecting I-680 and I-880 and high volumes of commuter traffic between the Central/Tri Valley areas and Silicon Valley combine to create serious congestion problems on existing arterials.
- A number of possible alignments for a connection (e.g. Mission Boulevard and Calaveras Boulevard) run through major commercial and residential areas; there would be a conflict between local traffic and through regional traffic.
- None of the alternatives studied to-date have community support
- "High end" alternatives could be prohibitively expensive.

Project Title

I-680 HOV Lanes: Contra Costa County Line to SR 84

Project Description

Widen I-680 from 6 to 8 lanes to provide two HOV lanes, between the Contra Costa County Line and SR 84, a distance of approximately 10 miles. Provide ramp metering and HOV bypass lanes at interchanges as appropriate.

Project Background

- This project is being evaluated in MTC led I-680 Corridor Study Phase 2 MIS.
- This project is consistent with policies of Tri-Valley Transportation Plan/Action Plan for Routes of Regional Significance.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$26.8 million* (1999\$)

*Depends on required modifications to interchange

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project would close HOV gap on I-680; when combined with existing HOV lanes to the north, and programmed/planned HOV lanes to the south, shared ride modes could travel over an uninterrupted HOV system from Milpitas to Walnut Creek.
- As part of the larger HOV system in the corridor, the project would encourage transit and ridesharing modes and help alleviate congestion in a major commuter corridor.
- Adequacy of interchanges to accommodate additional HOV lanes may prove to be an issue.

Project Title

I-680 Sunol Grade Northbound HOV lane from Montague Expressway to the county line

Project Description

Install northbound HOV lane, ramp metering and auxiliary lane of I-680 between Route 237 and Alameda/Santa Clara County line, for a distance of 4.1 miles.

Project Background

- Southbound improvements, which were recommended by the I-680 Sunol Grade Traffic Operations Study and Phase 1 MIS sponsored by the Congestion Management Agencies of Alameda, Contra Costa, and Santa Clara counties, are under construction.
- MTC's I-680 (Sunol Grade) Corridor Phase 2 MIS will define additional improvements.
- This project is included in the 1998 Regional Transportation Plan Track 1. The Blueprint will accelerate the delivery of this project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$52.21 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project improves travel time for carpools and buses traveling between San Joaquin County, the Tri-Valley and Central Contra Costa County and the employment centers of northern Santa Clara County.

Project Title

Sustain and Enhance ACE Service

Project Description

Provide funding to sustain operation of current levels of service (two peak period/peak direction trips between Stockton and San Jose, and a "turn-back" train between Pleasanton and San Jose) beyond 2000 and increase service to provide 6 round trips in the peak period/peak directions by 2010.

Project Background

- Initial service began in 1998, but only with sufficient funding to operate service through 2000.
- Current ridership is 900 to 1,200 passengers a day.
- San Joaquin, Alameda and Santa Clara counties are sharing current operating costs (approximately \$1.3 million per annum per county).
- TEA-21 provides \$14 million for infrastructure upgrade and additional train sets.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 provides an operating subsidy of \$10 million. (Measure B did not pass in 1998.)
- Portions of this project are in Track 1 of the RTP and the Blueprint could accelerate project implementation.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

- Recent upgrade includes a third round trip (between Livermore and San Jose).
- Operate 6 peak period/peak direction round trips with 30 minute headways staging at existing 12 stops by 2010.

- ACE is not currently planning to operate trains through the Dumbarton corridor. Any connection to the West Bay would be provided through a transfer to Caltrain service.

Estimated Costs

Capital: \$81.9 million; would include track and signal upgrade, station improvements and equipment (1999\$)

Total Annual Operating Costs: \$6 million to \$8 million per year (1999\$)

Farebox Recovery Assumed: \$2.1 million (1999\$) (26 - 36%)

Net Annual Operating Cost: \$3.9 - \$5.9 million (1999\$)

Observations/Issues

- Long-range funding to meet operating cost is an issue
- Additional service (more trains) will require negotiations with UP
- Environmental and capacity constraints on Alviso segment (south of Newark) may jeopardize opportunity to operate additional service in this segment of the corridor
- Speed increases will require substantial upgrade of tracks and signals.

Project Title

Express Bus Service (Tri Valley to Silicon Valley)

Project Description

Introduce express bus service between the Tri Valley and Silicon Valley and enhance existing bus services to/from BART stations.

Project Background

- Currently the only bus services provided in the corridor are LAVTA's (Livermore) and SMART's (Stockton) subscription bus services to Lockheed and express bus service to the East Pleasanton/Dublin BART station and Bishop Ranch on I-680.

Proposed Operating Scenario

- Conceptually, LAVTA would operate service with 15-minute headways during peak periods and 30-minute headways in off-peaks (more frequent service would be provided to BART).
- Stops would be strategically located to provide connections to park-and-ride lots, the BART station and with key employment centers in Fremont, Milpitas, San Jose and the Silicon Valley.

Estimated Costs

Tri-Valley to Silicon Valley

Capital: \$14.8 million (42 buses) (1999\$)

Total Annual Operating Cost: \$7.8 million (1999\$)

Farebox Recovery Assumed: \$1.2 million (1999\$)

Net Annual Operating Cost: \$6.6 million (1999\$)

Observations/Issues

- Increasing commuter traffic on I-680 through the Sunol Grade, with its accompanying congestion, combined with the planned implementation of HOV lanes on I-680 would provide travel time advantages for express buses.
- The planning of express bus, subscription bus and rail services would need to be coordinated to ensure complementary operations.
- Bus services will provide a high degree of flexibility in serving employment destinations in northern Santa Clara County.

	Proposed Headways		
	Peak	Midday	
SCVTA New	15	60	San Ramon-Sunnyvale
SCVTA New	15	60	Livermore-Lockheed
SCVTA New	15	60	Dublin/Plsnt-San Jose

Project Title

Expand LAVTA Subscription Bus Service: Tri-Valley to Northern Santa Clara County

Project Description

Expand LAVTA subscription bus service from the Tri-Valley to the major employment centers in northern Santa Clara County.

Project Background

LAVTA currently operates two subscription buses from the Tri-Valley to Lockheed, one to Intel and two from the Pleasanton BART Station to Walnut Creek. Additional buses have been recently purchased, and will be put into service immediately. The service ("Primetime") is employing refurbished Golden Gate transit buses, and the companies provide the drivers and subsidize their employees to use the service. Most of the operating costs are borne by LAVTA.

Proposed Operating Scenario

- LAVTA is in the process of expanding their express bus service with recently acquired vehicles.
- Service beyond that described above depends upon ability of LAVTA to afford replacement and additional new buses, which may be more expensive than those currently in service due to stricter standards (ADA, air quality, etc.).

Estimated Costs

Total Annual Operating Cost: \$3.5 million (1999\$)

Farebox Recovery Assumed: \$3.0 million (1999\$)

Net Annual Operating Cost: \$0.5 million (1999\$)

Observations/Issues

- Increasing commuter traffic on I-680 and Santa Clara County freeways and expressways with its accompanying congestion, combined with the availability of HOV lanes existing and planned would provide travel time advantages for subscription buses.
- Subscription buses have the advantage of providing the most direct type of transit service to the destination end of a commute trip.
- Increasing costs associated with new bus technology may be difficult to fund when current equipment needs replacing.

Section J

**Interstate
880
Corridor**

Interstate 880 Corridor

- A** I-880/Broadway/Jackson Interchange Completion

B Interchange Improvements —I-880/Winton Ave.

C Interchange Improvements —I-880/A Street

D Interchange and Approach Improvements —SR 92/Clawiter Rd.

E Intersection Improvements (Grade Separation)— Mission/Foothill/Jackson

F Union Pacific RR Grade Separation on Union City Blvd.
- G** I-880 HOV Lanes from Hacienda to 98th Ave.

H Union City Intermodal Station (Phase II)

I Oakland Airport BART Connector

- Not Mapped:
- West Oakland Truck Parking Area
 - Enhanced Rapid Bus Service (Intra Oakland/Berkeley)
 - Enhanced Rapid Bus Service (Hayward/ San Leandro to Oakland/Berkeley)
 - Enhanced Rapid Bus Service (South Alameda to Silicon Valley)

	Interstate Highway
	State Highway
	U.S. Highway
	Freeway
	Other Highway
	Major Arterial
	Airport
	Port
	Ferry Terminal
	Rail Line
	Amtrak Station
	ACE Station
	Caltrain Station
	BART Line/Station



Project Title

I-880 Interchange Improvements

- I-880/Broadway/Jackson
- I-880/Winton Avenue
- I-880/A Street
- Rte 92/Clawiter Interchange

Project Description

Reconstruct the interchanges to change ramp geometrics, increase capacity and improve mainline freeway operations

Project Background

- The 4 interchanges have significant, long standing operational deficiencies.
- Projects have all been evaluated in Alameda County CMA's *I-880 Corridor Study*.
- The Clawiter/Whitsell interchange project is included in the 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on November 2000 for \$19.5 million. (Measure B did not pass in 1998.)
- The I-880/Broadway/Jackson interchange project is included in the 2000 Alameda County Measure B Reauthorization Plan for \$6 million; it was partially funded (\$47 million) in Track 1 of the 1998 RTP.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

- I-880/Broadway/Jackson - \$6.18 million (1999\$) (represents project shortfall)
- I-880 Winton Avenue - \$10.3 million (1999\$)
- I-880/A Street - \$14.42 million (1999\$)
- Rte 92/Clawiter Avenue - \$80.34 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Reconstruction of interchanges will improve vehicle movements through the interchanges and reduce accidents
- Improvements will reduce congestion on adjacent city streets and reduce accident rates

Project Title

Mission/Foothill/Jackson Grade Separation

Project Description

Elevate Mission Boulevard over a depressed section of Foothill Boulevard/Jackson Street in downtown Hayward. Grade separation could take the form of an urban interchange.

Project Background

- Intersection design solutions were first evaluated in the Mission Foothill Corridor Study (1991) sponsored by the City of Hayward
- The project is included in Alameda County CMA's I-880 Corridor Study project list

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$42 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This interchange represents the convergence of Routes 185, 238 and 92; because of awkward geometrics and difficult signal timing, traffic delays are long and congestion builds up, especially during peak periods; it is one of the most congested intersections in all of Alameda County.
- The project will assist in separating local and regional traffic and improve the operation of both intersections and adjacent arterials.
- Project right-of-way requirements would have adverse impacts on adjacent properties.

Project Title

Railroad Grade Separation on Union City Boulevard Over UP (Mulford Line) in Union City

Project Description

Construct an overcrossing of Union City Boulevard over the UP (Mulford Line) crossing between Whipple Avenue and Bettencourt Way in Union City

Project Background

- Project is included in the Alameda County CMA's *I-880 Corridor Study* project list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$8.5 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Project is a major at grade crossing of Union City Boulevard at the UP Mulford Line, a major UP freight line and Amtrak rail route; Union City Boulevard is a major reliever route for I-880 and currently experiencing long back-ups of traffic

Project Title

Extend I-880 HOV lanes from Hacienda Avenue in Hayward to 98th Avenue in Oakland

Project Description

Extend the existing NB HOV lane approximately 5 miles from the Hacienda overcrossing in Hayward to just south of 98th Avenue in Oakland. Extend the SB HOV lane approximately 2 miles south of Marina Blvd. The NB HOV lane would require major construction at the Lewelling Blvd. on ramp, the I-238 off ramp and replacement of the Washington Blvd. overcrossing. North of Washington Blvd., I-880 would require pavement widening, and replacement of the Marina and Davis Street Bridges and widening of the UP railroad overcrossing at San Leandro Creek

Project Background

- Project is included in the Alameda County CMA's I-880 Corridor Study project list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$100 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- With this project in place, the I-880 HOV system would be over 24 miles in length in both directions and provide continuous operations between Dixon Landing Rd. in Fremont and the Oakland City line.
- The HOV lanes extension will provide additional travel time savings for buses and carpools.
- An extension of the HOV lanes for the north to Cypress would be difficult and costly.

Project Title

Union City Intermodal Station (Phase II)

Project Description

Construct an intermodal transfer facility, with the Union City BART Station as the core, to provide a more direct transfer among the Capitols (if and when Union City becomes a stop), planned VTA Commuter Rail Service and BART. The project would increase parking, station amenities and improvements to local access routes. In addition, the UP rail lines adjacent to the BART station could be relocated and the immediate neighborhood redeveloped as a transit village.

Project Background

- MTC's 1998 RTP provides \$9.6 million in Track 1 to complete Phase 1.
- This project has been under consideration for approximately 5 years.
- A Phase 1 project, which includes improving AC Transit bus access to BART, is partially funded and being implemented.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 designates \$9.2 million for this project. (Measure B did not pass in 1998.)

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$33 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The convergence of BART, the Capitols and future VTA Commuter Rail Service make the existing BART station a prime location for the development of an intermodal station.
- The existence of vacant or underdeveloped land adjacent to the station provides an opportunity to plan and implement land uses that could generate transit patronage.
- Relocating the old SP tracks, which carry the Capitols and are approximately 2,000 ft. to the east of the BART station, to connect more directly to the station is a possibility. However, Union City if not currently a Capitols stop.
- Phase 2 plans are very conceptual at this time and some options could be very expensive.

Project Title

Oakland Airport BART Connector

Project Description

Construct an exclusive transit guideway connecting the BART Oakland Coliseum Station with the Oakland International Airport Terminal, a distance of 3 miles. Two alignments (Hegenberger and Edgewater) are being evaluated

Project Background

- Project was first evaluated in 1970 (Draft EIR/EIS prepared)
- It is included in MTC's Resolution No. 1876 (Track II - planning) and BART's Extension Staging Policy (Phase II)
- The 2000 Alameda County Reauthorization Plan (sales tax) to be voted on in November 2000 includes \$65.8 million for this project. (Measure B did not pass in 1998.)
- It has been evaluated in Alameda County CMA's ongoing I-880 Corridor Study
- STIP funding is available for environmental study and preliminary engineering
- This project is in Tier 1 of the Alameda County Countywide Transportation Plan.
- The 1998 STIP funding of \$4 million is currently being spent on environmental work and preliminary engineering.

Proposed Operating Scenario

Operate service between BART Coliseum station and Oakland Airport Terminal, with minimum headways of 4 to 6 minutes during peak periods. (One way in-vehicle travel time of 5 to 7 minutes.)

Estimated Costs

Capital: \$134 million (1999\$)

Total Annual Operating Costs: \$0.915 million (1999\$)

Farebox Recovery Assumed: \$0.526 million (1999\$)

Net Annual Operating Cost: \$0.389 million

Observations/Issues

- Project will provide direct rail connection between BART mainline and Oakland Airport Terminal.
- It will provide an alternative to the automobile for people accessing the airport, and reduce the need for large scale additional on-site parking facilities.
- Service will be more reliable, frequent, and environmentally sensitive than competing modes.
- Issues include selection of alignment and potential for intermediate stages.

Project Title

West Oakland Truck Parking Area

Project Description

Site and range of services TBD. Suggested sites include one on or adjacent to the Port of Oakland. Besides providing truck parking spaces, services could include a restaurant, over night accommodation, shower facilities, etc.

Project Background

- Alameda County CMA's I-880 Corridor Study has considered a truck stop as a freight management strategy in the Corridor.
- MTC's Freight Advisory Committee has recommended consideration of the project in the I-880 Corridor Truck Study.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$1 million (1999\$) (Cost will depend on site, lot size, ownership [lease or purchase] and range of services provided).

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The parking of truck trailers / containers on residential streets adjacent to the Port of Oakland has become a serious problem.
- A full service truck stop would not only alleviate the aforementioned problem, but provide services for truckers waiting to access the Port.
- Other cities indicating an interest in a truck stop include San Leandro and Union City.

Project Title

Enhanced Rapid Bus Service (Intra Oakland-Berkeley)

Project Description

- Upgrade transit services within Oakland and Berkeley through the introduction of rapid bus service and/or light rail service. Potential routes include Telegraph, Shattuck, University and College Avenues, E. 14th St. (International Way) and Foothill/Mission Blvd.
- The objective of the improvements would be to increase ridership and provide faster, more frequent, dependable and safer service. Rapid bus and/or LRT services would be supported by advanced technologies which could include Automated Vehicle Locating and Monitoring systems (AVL/AVM), signalization improvements (including preemption), improved ticketing and fare payment systems, and upgrades of stops and street furniture, etc.

Project Background

- See *Enhanced Rapid Bus Service (Hayward-San Leandro to Oakland/Berkeley)* for discussion about International Blvd./East 14th St. corridor.

Proposed Operating Scenario

Intra Oakland-Berkeley:

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
AC 43	8	16	5	15
AC 51	15 – 20	20	10	15

Estimated Costs

Capital: \$7.39 million (21 buses) (1999\$)

Total Annual Operating Cost: \$5.77 million (1999\$)

Farebox Recovery Assumed: \$1.44 million (1999\$)

Net Annual Operating Cost: \$4.33 million (1999\$)

Observations/Issues

- Transit Improvements within Oakland and Berkeley could foster new development and redevelopment interest.
- Transit improvements could catalyze development and redevelopment, provide for transit-oriented development, and help build community identity.
- Upgraded transit service could reduce automobile use in the corridor and relieve local traffic congestion.
- Long-range service could evolve into electric trolley or light rail.

Project Title

Enhanced Rapid Bus Service (Hayward-San Leandro to Oakland/Berkeley)

Project Background

- Enhance rapid bus service in the International Blvd./East 14th St., MacArthur Blvd. (including service to Oakland International Airport), and Hilltop/Oakland corridors.
- Improvements could include high-capacity articulated buses, increased frequencies, improvements in stops, shelters, Automated Vehicle Location and Monitoring Systems (AVL/AVM) signalization improvements (including preemption) street furniture upgrade, etc.
- For International Blvd./East 14th St., possible improvements may include rapid bus, enhanced trolley bus, and light rail transit.

Project Background

- The AC Transit District Alternative Modes Analysis (AMA) (1992) identified the East 14th Street (International Boulevard) corridor as one of 5 AC Corridors to be considered for incremental upgrade of services; three possible increments of service were defined: high quality bus (Rapid Bus); enhanced trolley bus, and light rail.
- AC Transit is currently undertaking a Major Investment Study (MIS) of the corridor to determine how best to service its transit needs; a full range of vehicle technologies is being considered.

Proposed Operating Scenario

Hayward-San Leandro to Oak/Berkeley:

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
AC 40	13	16	10	15
AC 82	7.5	7.5	5	5
AC 57	15-20	15	15	15
AC 58	18 – 100+	18 – 100+	15 – 30	15 – 60

Estimated Costs

Hayward-San Leandro to Oakland / Berkeley:

Capital: \$6.34 million (18 buses) (1999\$)

Total Annual Operating Cost: \$7.75 million (1999\$)

Farebox Recovery Assumed: \$1.94 million (1999\$)

Net Annual Operating Cost: \$5.81 million (1999\$)

Trolley Bus/Light Rail Transit: TBD

Observations/Issues

- The International Blvd./East 14th St. corridor is one of AC Transits' primary ridership generators.
- The MIS will determine the best approach for upgrading service; one possible scenario might be to provide rapid bus service in the near term followed by the introduction of LRT in the long term; analysis may demonstrate that a mix of bus and rail services will best serve the corridor.
- Transit-oriented developments may result from transit improvements.
- Upgraded transit service could reduce automobile use in the corridor and relieve local traffic congestion.

Project Title

Express Bus Service (South Alameda to Silicon Valley)

Project Description

Introduce and enhance express bus service in South Alameda.

Project Background

- Currently the only bus services provided in the corridor are LAVTA's (Livermore) and SMART's (Stockton) subscription bus services to Lockheed and express bus service to the East Pleasanton/Dublin BART station and Bishop Ranch on I-680.

Proposed Operating Scenario

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
Hayward-San Leandro to Silicon Valley				
SCVTA New	--	--	15	30
South Alameda to Silicon Valley				
AC Transit 97	25	28	10	15
DBX	30-60	90	15-30	30
SCVTA 180	12	30	10	15
SCVTA 140	60	--	15	60
SCVTA 520	35	--	15	60
SCVTA New	--	--	10-15	15-60

Estimated Costs

Hayward-San Leandro to Silicon Valley

Capital: \$8.72 million (21 buses) (1999\$)

Total Annual Operating Cost: \$5.69 million (1999\$)

Farebox Recovery Assumed: \$0.89 million (1999\$)

Net Annual Operating Cost: \$4.8 million (1999\$)

South Alameda to Silicon Valley

Capital: \$2.5 million (7 buses) (1999\$)

Total Annual Operating Cost: \$8.68 million (1999\$)

Farebox Recovery Assumed: \$1.88 million (1999\$)

Net Annual Operating Cost: \$6.8 million (1999\$)

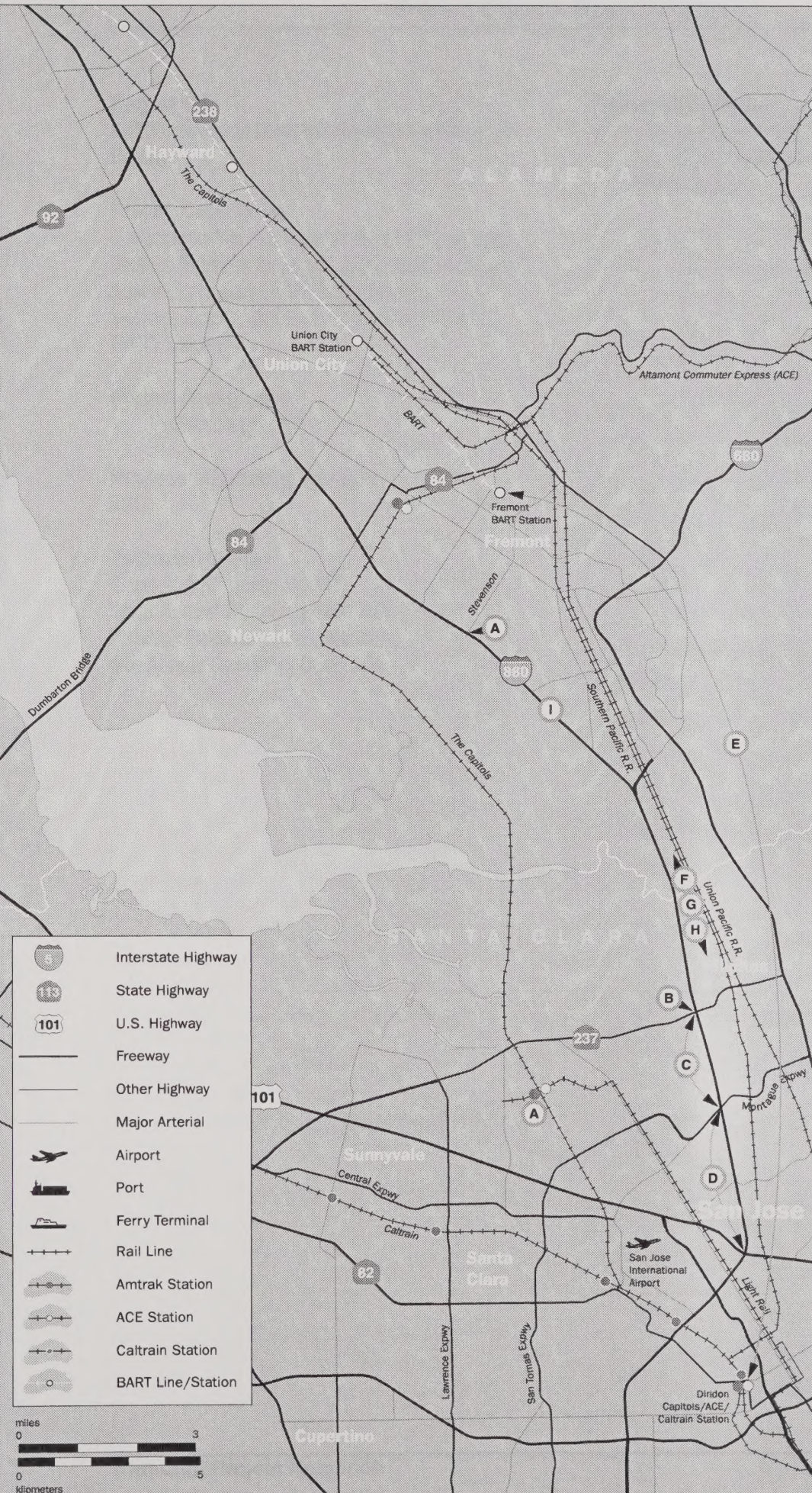
Observations/Issues

- Increasing commuter traffic on I-680 through the Sunol Grade, with its accompanying congestion, combined with the planned implementation of HOV lanes on I-680 would provide travel time advantages for express buses.
- The planning of express bus, subscription bus and rail services would need to be coordinated to ensure complimentary operations.
- Bus services will provide a high degree of flexibility in serving employment destinations in South Alameda and Silicon Valley.
- AC Transit is requesting \$2.9 million in Cycle 2 STP/CMAQ Corridor Management funds to operate service between Bayfair BART/Southland Mall and the Hillsdale Caltrain Station.

Section K

**Fremont-
South Bay
Corridor**

Fremont-South Bay Corridor



- A** Slip Ramp — I-880/Stevenson Blvd.
- B** Interchange Improvements — I-880/SR 237
- C** I-880 Widening (2 HOV Lanes) — SR 237 to Montague Expwy.
- D** I-880 Widening (2 HOV Lanes) — Montague Expwy. to US 101
- E** BART Extensions
 - Fremont to Warm Springs
 - Warm Springs to Tasman
 - Tasman to Downtown San Jose
- F** Interim VTA Commuter Rail Service—Union City to Downtown San Jose
- G** Expanded VTA Commuter Rail Service—Union City to San Jose and ultimately to Gilroy
- H** VTA Light Rail Extension—Tasman to Warm Springs, Fremont or Union City BART Station
- I** Expand Express Bus Service from Fremont BART to Santa Clara County destinations

Not Mapped:

- Rapid Bus Service (San Joaquin Co., Tri-Valley, Fremont, Hayward to Santa Clara County)
- Capitol Corridor Commuter Rail from Oakland to San Jose

Project Title

I-880/Stevenson Blvd. Interchange Slip-Ramp for Buses

Project Description

Construct a bus slip-ramp at the I-880/Stevenson Blvd. in Fremont for buses. This ramp would give buses direct access to Stevenson Blvd. and improve bus service to and from the Fremont BART station.

Project Background

- Project scope TBD

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$10 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The slip ramp would improve travel times for bus riders traveling to and from the Fremont BART station

Project Title

Interchange Improvements—I-880/SR 237
(Stage C-3)

Project Description

Construct a northbound I-880 to westbound SR 237 freeway-to-freeway connector, with a braided northbound Tasman Drive entrance ramp

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Stage C-3 is the last stage of the SR 237/I-880 interchange improvement project.
- Stages C1 and C2 are already funded.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$65 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project will complete the SR 237/I-880 interchange reconstruction, and contribute significantly to the elimination of one of the South Bay's more critical congestion "choke points."

Project Title

Widen I-880 to 8 Lanes (includes 2-HOV lanes)
from SR 237 to Montague Expressway

Project Description

Widen I-880 from 6 to 8 lanes by adding a northbound HOV lane and a southbound HOV lane between SR 237 and Montague Expressway, a distance of approximately 1.7 miles.

Project Background

- I-880 currently has 6 mixed flow lanes between Route 237 and Montague Expressway.
- Two related projects are currently programmed:
 - Widen I-880 to 6 mixed flow lanes and 2 HOV lanes north from SR 237 to the Dixon Landing Rd. interchange
 - Stages A & B of the I-880/SR 237 interchange reconstruction (southbound I-880 to westbound SR 237 freeway to freeway connector and eastbound SR 237 to northbound I-880 freeway to freeway connector) are under construction and will be completed in 2000/01.
- A third project, stages C-1 and C-2 of the interchange reconstruction (southbound I-880 to westbound SR 237 HOV connector and eastbound SR 237 to northbound I-880 HOV connector; and eastbound SR 237 to southbound I-880 freeway-to-freeway connector) is fully funded (Measure A/B).
- The project is consistent with MTC's 1997 *HOV Lane Master Plan Update*.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$60 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Right-of-way acquisition for this project would be minimal. No bridge structure expansions would be required.
- This project will provide a continuous HOV network on I-880 from the Alameda County line to Montague Expressway and facilitate the enhancement of express bus service and HOV use in the corridor.

Project Title

Widen I-880 to 8 Lanes (includes 2-HOV lanes) from Montague Expressway to US 101

Project Description

Widen I-880 to 8 lanes by adding a northbound HOV lane and a southbound HOV lane between Montague Expressway and US 101, a distance of approximately three miles.

Project Background

- I-880 currently has 4 mixed flow lanes between Montague and US 101.
- Funds to widen this segment to 6 mixed flow lanes have been programmed.
- The project is consistent with MTC's 1997 *HOV Lane Master Plan Update*.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$200 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Right-of-way acquisition costs for this segment will be significant due to the proximity of development to the freeway.
- This project will also require the widening of the Coyote Creek/Brokaw Road interchange bridge.
- Adding two HOV lanes to I-880 between SR 237 and Montague Expressway and extending them to US 101, will provide a continuous HOV network on all of the freeways and expressways serving the Golden Triangle area of Milpitas, north San Jose, Santa Clara and Sunnyvale.

Project Title

BART Extensions:

- Fremont to Warm Springs
- Warm Springs to Tasman
- Tasman to downtown San Jose

Project Description

Extend BART from Fremont to Downtown San Jose, via Warm Springs using the UP or SP rights-of-way or a combination of both

Project Background

- The Fremont to Warm Springs BART extension was included as part of MTC's original New Rail Starts and Extensions Program (Resolution No. 1876).
- The *Fremont-South Bay Study*, completed in May 1994, evaluated the potential for BART in the corridor.
- A BART extension to Warm Springs is included in BART's Extension Staging Policy and has been the subject of an EIR.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 provides partial funding of \$65 million for this project, contingent upon assurance of full funding for the rail connection to Santa Clara County.
- VTA has identified BART to San Jose in the draft Valley Transportation Plan 2020 priority list, and is currently leading a new study for a BART extension to San Jose, which is expected to be completed in summer 2000.

Proposed Operating Scenario

TBD

Estimated Costs¹

Capital: \$4.045 billion (1999\$)

- Fremont to Warm Springs: \$553 million
- Warm Springs to Tasman: \$750 million
- Tasman to San Jose: \$2.75 billion

Total Annual Operating Cost: \$27.7 million to \$43.1 million (1999\$)

Farebox Recovery Assumed: \$13.3 to \$20.7 million (1999\$)

Net Annual Operating Cost: \$14.4 to \$22.4 million (1999\$)

Percentage of Annual Operating Costs by Segment:

- Fremont to Warm Springs, 29.2%
- Warm Springs to Tasman, 37.8%
- Tasman to downtown San Jose, 33.0%

¹Cost and ridership information are currently being evaluated as part of Santa Clara Valley Transportation Authority's (VTA) BART to San Jose Extension Study Update. The cost and ridership information are subject to change upon conclusion of this Study Update.

Observations/Issues

- The extension would provide a "seamless" rail service linking the East Bay and South Bay and reduce the number of transfers a rider would have to take in accessing jobs in the corridor.
- The project would reduce travel times, automobile dependency and freeway congestion.
- A BART extension to San Jose is one of several long-term options for rail in the corridor (see other project fact sheets).
- The major impediment to implementing a BART extension has been the shortage of funding.
- Other major issues include the selection of alignment, number and location of stations, determination of staging, institutional arrangements between BART and Santa Clara County (outside the BART district) and negotiating with UP to acquire right-of-way and/or lease rights to track usage.
- Near term travel strategies in the corridor are focusing on the proposed VTA commuter rail service and upgraded express bus service.

Project Title

Interim VTA Commuter Rail Service between Union City BART and Downtown San Jose Diridon Station

Project Description

Provide commuter rail service between Union City BART and Downtown San Jose Diridon Station.

Project Background

- Some funds for this project are included in 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- 1996 Santa Clara Measure A/B program provides \$89 million to begin basic commuter rail service between Union City and Downtown San Jose.
- Alternative rail scenarios have been studied in the *Fremont-South Bay Corridor Study* (May 1994) and recently completed *VTA Commuter Rail Study* (February 1999).

Proposed Operating Scenario

VTA is evaluating service headways; start-up service will provide either half hourly or hourly, two directional service in peak periods.

Estimated Costs

Capital: The capital cost of fully implementing any commuter rail alternatives evaluated in the *Commuter Rail Study* ranges from \$145 million to \$170 million (1999\$). (Measure B provides \$89 million.)

Total Annual Operating Cost: \$6 to \$7 million for start-up service

Farebox Recovery Assumed: \$1.4 to \$1.6 million (23%) (1999\$)

Net Annual Operating Cost: \$4.6 to \$5.4 million (1999\$)

Observations/Issues

- Commuter rail could be either an interim solution (pending a major investment in BART or light rail or a combination of BART/LRT) or a long-term solution. The long-term commuter rail option is described in the following fact sheet.
- The interim project has a funding shortfall, which is the Blueprint "project."
- Major issues include selection of an alignment (SP, UP or combination), institutional and funding mechanisms (the role of Alameda County), negotiations with UP (right-of-way purchase and/or lease of access rights), and environmental impacts.

Project Title

Expanded Interim VTA Commuter Rail Service between Union City and San Jose and ultimately to Gilroy

Project Description

Enhance the proposed VTA Commuter Rail Service between Union City and San Jose to extend the service area, and provide more trains and station stops. In the long term, service could extend south to Gilroy. Trains would operate on the UP line between the Union City BART Station and Diridon Station in San Jose (26 miles). Project could include a connecting station with ACE commuter rail service at Niles Canyon in Fremont.

Project Background

- Limited VTA Commuter Rail service between Diridon Station and the Union City BART Station is a Santa Clara County's Measure A/B project. (See preceding fact sheet and *VTA Commuter Rail Study* (1999).
- The MTC led Fremont-South Bay Corridor Study (1994) evaluated a number of BART, LRT and commuter rail alternatives to determine their potentials as major rail service providers in the corridor. Two commuter rail scenarios, using both UP and SP alignments, were studied.

Proposed Operating Scenario

Based on *Fremont-South Bay Study*:

- Operate two directional, commuter trains between Union City and Diridon Station (or Tamien Station), on UP's eastern alignment, with approximately 8 intermediate stops. Trains would run with 15-minute headways during peak periods and one-hour off-peak frequencies.
- Service levels for extension of service south to Gilroy TBD.

Estimated Costs

Capital: \$470 million (1999\$) based on *Fremont-South Bay Corridor Study*. Includes cost of acquiring UP right-of-way, upgrading tracks and signals, stations, signals and equipment. Includes cost of grade separation at Niles Junction. Does not include cost for service to Gilroy.

Total Annual Operating Cost: \$12.8 million (1999\$)

Farebox Recovery Assumed: \$2.9 million (1999\$) (23%)

Net Annual Operating Cost: \$9.9 million (1999\$)

Observations/Issues

- Implementation of the Measure A/B project establishes commuter rail in the corridor.
- Until major issues impeding BART service in the corridor (lack of funding, institutional arrangements between BART and Santa Clara Co., etc.) are resolved, commuter rail would be the primary rail option.
- An extension southward from Diridon/Tamien Station to Gilroy, combined with major improvements to track interchanges and a new station on the ACE line at Niles Canyon, could provide for direct transfers among VTA commuter rail and LRT services, ACE and Caltrain and tap a large travel market stretching from South Santa Clara County, through the Fremont-South Bay Corridor to the Tri and Central valleys (via transfers).
- Ultimately, it may prove viable to extend rail service south from Gilroy to Hollister in San Benito County, to Salinas, and/or the City of Monterey (other rail options include Caltrain and the Capitols). However, current ridership estimates to and from these cities indicate that for the present and near term there would be insufficient ridership to justify regular rail service.

Project Title

VTA Light Rail Transit (LRT) Extension—Tasman to Warm Springs, Fremont or Union City BART Station

Project Description

Extend VTA LRT system north on the UP line to connect with BART at Fremont or Union City. Specific alignment, terminus, number of stations and operating standards to be determined.

Options include:

- Extending LRT from Milpitas (Tasman line) north to Warm Springs, Fremont, or Union City BART stations.

It is assumed that LRT would be extended from Tasman LRT to connect with BART at Fremont, a distance of approximately 12 miles.

Project Background

- An LRT connection was evaluated in the *Fremont-South Bay Study* completed in May 1994, along with BART, commuter rail and express bus alternatives.

Proposed Operating Scenario

Based on Fremont-South Bay Corridor Study, the LRT scenario (Fremont BART to Tasman) would have stations at Irvington, Warm Springs, S. Warm Springs, Calaveras, and Capital/Montague or Great Mall and would operate with 10-minute peak period headways.

Direct service could be provided from Fremont BART to Mountain View (via the Tasman line), Fremont BART to downtown San Jose (via N. 1st Street), or some combination of the two light rail lines.

Estimated Costs

1. Tasman LRT to Warm Springs
2. Tasman LRT to Fremont BART
3. Tasman LRT to Union City BART

(millions) (1999\$)

	Capital	Total Annual Operating Cost	Farebox Recovery Assumed	Net Annual Operating Cost
1	317.2	13.15	1.26	11.89
2	500.0	16.0	1.5	14.5
3	659.5	20.69	1.98	18.71

Fully grade separating the LRT line would add another \$30 million to the capital cost for Tasman LRT to Warm Springs, \$50 million for Tasman LRT to Fremont BART, and \$60 million for Tasman LRT to Union City BART.

Observations/Issues

- Linking BART to the VTA LRT system would provide rail access from Alameda County to job opportunities in northern Santa Clara County.
- Major issues include lack of funding, institutional arrangements between Alameda and Santa Clara counties for operating the service and sharing costs, the extent to which grade separations at street crossings would be required, and negotiating with UP for right-of-way acquisition and/or leasing rights to track usage.
- VTA's Measure A/B Commuter Rail Service, Altamont Commuter Express (ACE) and Capitol Corridor services, combined with upgraded express bus service will provide the corridor's primary transit options in the near term.
- As with the other rail options in this corridor, the LRT extension would help reduce automobile dependency and freeway congestion.

Project Title

Expand Express Bus Service from Fremont
BART Station to Santa Clara County
Destinations

Project Description

Expand VTA express bus service from Fremont
BART Station to Milpitas (LRT connection) San
Jose, Sunnyvale and Lockheed

Project Background

- An expanded express bus service option was studied in both the *Fremont-South Bay Corridor Study* (1994) and *VTA Commuter Rail Study* (1998)

Proposed Operating Scenario

- Conceptually VTA would operate express bus service with 15 minute headways during peak periods and 30 to 60 minute headways in off-peak periods

Estimated Costs

Capital: \$1.75 million (1999\$)

Total Annual Operating Cost: \$1.20 million
(1999\$)

Farebox Recovery Assumed: \$0.18 million
(1999\$)

Net Annual Operating Cost: \$1.02 million
(1999\$)

Observations/Issues

- Increasing levels of commuter traffic on I-880, I-680 and SR 237 and accompanying congestion, combined with existing and planned HOV lanes on I-880 and I-680 would provide travel time advantages for express buses
- The enhancement of express bus service in the corridor must be coordinated with the introduction of commuter rail, and LRT services extant or being implemented to ensure complimentary operations
- Bus service provides a high degree of flexibility in serving employment destinations in northern Santa Clara County

Project Title

Rapid Bus Service (San Joaquin Co., Tri-Valley, Fremont, Hayward to Santa Clara County)

Project Description

Expand bus service in the Fremont-South Bay corridor to provide access to jobs in Santa Clara County with a focus on the following service areas:

- Fremont
- Hayward
- Tri-Valley in Alameda County
- San Joaquin County
- Santa Clara County

Project Background

- Evaluation of service needs and identification of service enhancements is part of VTA's Strategic Plan (1996-2006).

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$20 million (for buses) (1999\$)

Total Annual Operating Cost: \$15 million (1999\$)

Farebox Recovery Assumed: \$3 million (1999\$)

Net Annual Operating Cost: \$12 million (1999\$)

Observations/Issues

- Scope of service upgrades is still being determined.
- VTA's Strategic Plan has a goal of increasing the system's farebox recovery rate to 25% over 10 years by adding new riders, increasing the average fare per rider, and reducing VTA's operating cost.

Project Title

Capitol Corridor Commuter Rail from Oakland to San Jose

Project Description

This project would add an additional eight daily round trips to the Capitol Corridor's twelve round trips between Solano County and Oakland. In order to accommodate these additional daily round trips, it requires upgrading both the Hayward and Mulford lines for optimal combinations of intercity and express trains.

Project Background

- This project is another Fremont-South Bay rail project, and is being evaluated with a series of other rail and bus scenarios.

Proposed Operating Scenario

- The eight additional daily round trips would operate in addition to the CCJPA's twelve round trip proposal. It is anticipated these additional round trips would be commuter-oriented, would operate on the Mulford line (decreasing travel times between Oakland and San Jose by more than 20 minutes), and would run as express operations, bypassing some stations.
- The commuter rail runs would decrease headways to 30 minutes or less during peak periods between Oakland and San Jose.

Estimated Costs

Capital: \$85 million dollars for upgrades to the Mulford and Hayward Lines, and for passing tracks, and for new train sets. The costs here assume the operation, and attendant improvements, associated with 12 daily round trips between Solano County and Oakland on the Capitol Corridor.

Total Annual Operating Cost: \$8.4 million (1999\$)

Farebox Recovery Assumed: \$2.8 million (1999\$) (33%)

Net Annual Operating Cost: \$5.6 million (1999\$)

See also Capitol Corridor Upgrade (12 daily round trips between San Jose, Oakland, and Sacramento Region and 4 daily round trips between Solano County and Oakland) project in the I-80 Corridor.

Section L

**Santa
Clara
Valley
Subarea**

Santa Clara Valley

Subarea

- A

SR 85/US 101 HOV Direct Connectors—Mountain View
- B

SR 85/US 101 HOV Direct Connectors and Mixed Flow Direct Connector Ramps—San Jose
- C

I-880/Coleman Ave. Interchange Improvement
- D

Vasona LRT: Campbell (Downtown) to Winchester Station
- E

Civic Center LRT Extension
- F

East Valley LRT: Evergreen Area to Downtown San Jose (alignment TBD)
- G

Caltrain Service Expansion—San Jose to Gilroy
- H

Caltrain Service Expansion—Gilroy to Salinas and/or Hollister
- I

San Jose Airport Rail Connector
- J

Upgrade SR 152 to Expressway
- K

US 101 Widening (2 HOVs) from Bernal Rd. in San Jose to Cochran Rd. in Morgan Hill
- L

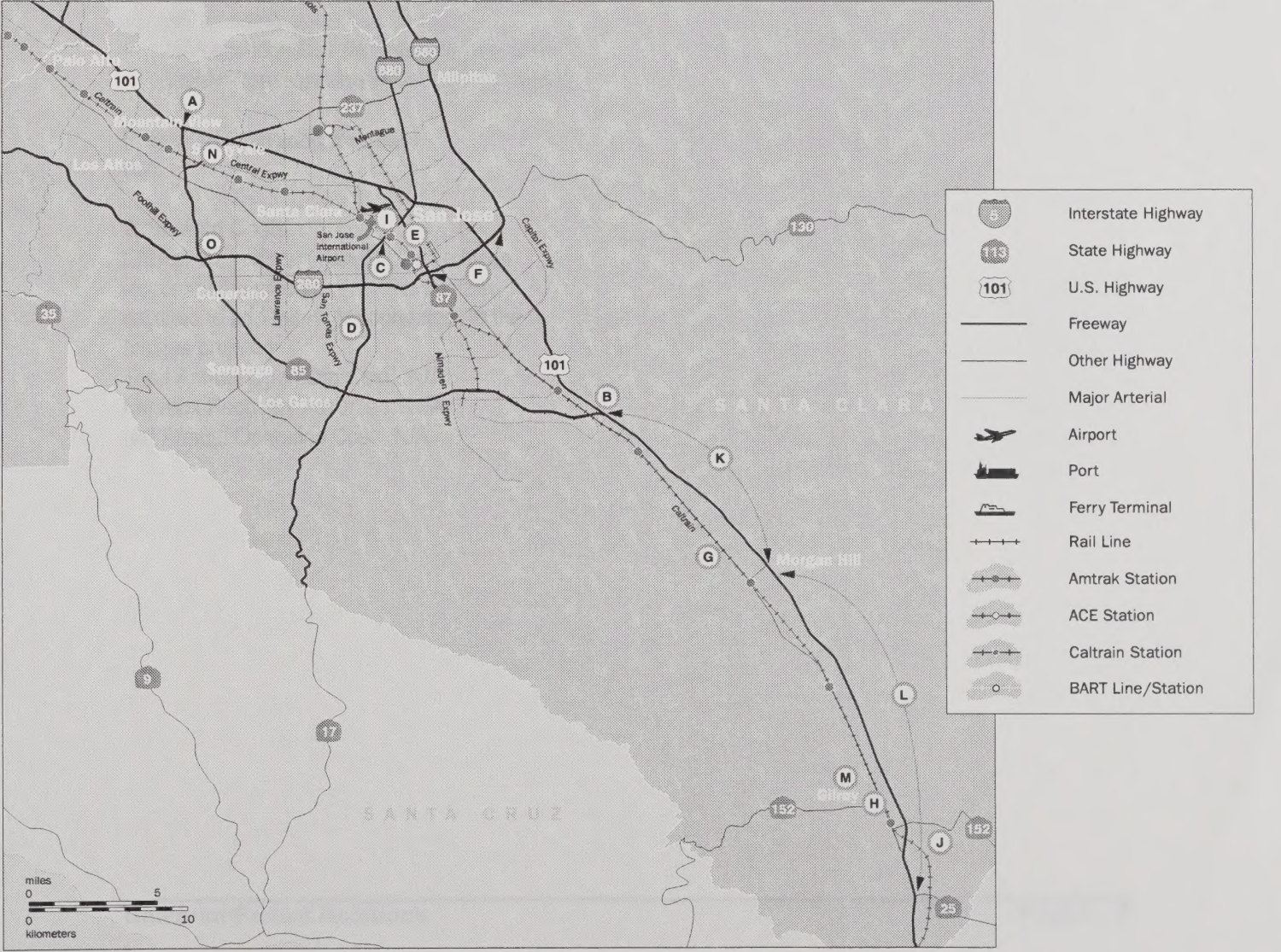
US 101 Widening (2 HOVs) from Cochran Rd. in Morgan Hill to SR 25 near Santa Clara County Line
- M

Extension of Santa Teresa Blvd.
- N

SR 237 Widening (2 HOVs) from US 101 to SR 85
- O

SR 85 Widening (2 HOVs) from I-280 to Fremont Ave

- Not Mapped:
- Caltrain Electrification—San Francisco to Gilroy (see Peninsula Corridor)
 - Expanded VTA Bus Service
 - New and Enhanced Rapid Bus Service (Intra Santa Clara County)
 - Montague Expressway Corridor Improvements
 - Countywide Freeway Interchange Upgrades
 - Countywide Freeway and Expressway Auxiliary Lanes and Expressway improvements
 - Measure A Rail Projects
 - Countywide Roadway Connections and Freeway/Creek Overcrossings
 - Silicon Valley ITS and SMART Corridor Additions



Project Title

SR 85/US 101 Direct HOV Connectors in Mountain View

Project Description

Construct direct HOV connector ramps from southbound US 101 to southbound SR 85 and northbound SR 85 to northbound US 101.

Project Background

- Project is included in a Project Study Report (PSR) prepared by VTA for the Measure A/B interchange completion project.
- The County of Santa Clara has funded other elements of the interchange project from the Measure A/B program. The HOV direct connectors are not funded.
- The project was initially requested by Caltrans to be included in planning for the reconstruction of the interchange.
- The project is consistent with MTC's 1997 *HOV Lane Master Plan Update*.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$25 million (1999\$) (These funds represent the amount of additional money required to add the HOV connectors to the original project.)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The traffic operations analysis prepared for the project indicates that the HOV connectors would provide significant operational benefit to the SR 85/US 101 interchange by eliminating weaving movements of vehicles entering and exiting the HOV lanes.
- The project will improve the operation of Santa Clara County's HOV system.

Project Title

SR 85/US 101 Direct High Occupancy Vehicle (HOV) Connectors in South San Jose and Mixed Flow Direct Connector Ramps

Project Description

Construct direct HOV lane connector ramp from northbound US 101 to northbound SR 85 and southbound SR 85 to southbound US 101 and construct direct connector ramps from southbound US 101 to northbound SR 85 and southbound SR 85 to northbound US 101.

Project Background

- Project is included in a Project Study Report (PSR) being prepared by VTA for the Measure A/B interchange completion project.
- The County of Santa Clara Base Case Implementation Plan for the Measure A/B program has \$20.6 million included for the interchange. The Blueprint project would provide funds to complete this interchange reconstruction project.
- The project is consistent with MTC's 1997 *HOV Lane Master Plan Update*.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$25.8 million (1999\$) These funds represent the amount of additional money required to complete the entire interchange.

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- By providing a direct connection to the existing HOV lanes on Route 85 and US 101, vehicles could travel from Morgan Hill in south Santa Clara County to Redwood City in San Mateo County without exiting the HOV lane.
- The project will improve the operation of Santa Clara County's HOV system.
- The direct connector freeway-to-freeway ramps will provide access to rapidly developing South San Jose.

Project Title

Interchange Improvements—
I-880/Coleman Avenue

Project Description

Reconstruct the I-880/Coleman Avenue interchange near San Jose International Airport to improve the ramps and improve access to San Jose Airport.

Project Background

- The City of San Jose and San Jose Airport staffs have identified this project as a critical need for improving airport ground access.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$36.1 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Because of design and capacity deficiencies, the existing interchange has serious operational problems, which result in significant congestion problems on I-880.

Project Title

Vasona Light Rail Transit (LRT) Extension from Downtown Campbell to Winchester Station in Campbell

Project Description

Extend the Vasona Light Rail line south from Downtown Campbell to the Winchester Station in Campbell, a distance of approximately 0.5 miles; Project would include extension of tracks and station construction.

Project Background

- Vasona LRT from Downtown San Jose to Downtown Campbell is funded through the County's Measure A/B program.
- VTA is preparing an EIR/EIS for the Vasona LRT project that would extend the Vasona LRT line to the Winchester Station and ultimately extend the line approximately 1.5 miles south from the Downtown Campbell station to Vasona Junction in Los Gatos (depends on funding availability).
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$20.6 million (1999\$)

Total Annual Operating Cost: \$0.85 million (1999\$)

Farebox Recovery Assumed: \$0.08 million (1999\$)

Net Annual Operating Cost: \$0.76 million (1999\$)

Observations/Issues

- The Winchester Station extension would provide a more logical "end station" for the Vasona LRT than the Downtown Campbell Station. (The Campbell Station lacks adequate parking to properly function as a commuter, park-and-ride station.)
- The extension will more directly serve the needs of riders in Campbell, Los Gatos and southwestern San Jose and aid in the reduction of commuter traffic on SR 17.

Project Title

Civic Center Light Rail Transit (LRT) Extension

Project Description

Extend the LRT from the Vasona Light Rail line to the new Civic Center area in Downtown San Jose; Project would include extension of tracks and station construction.

Project Background

- This project would probably have an alignment down Santa Clara or San Fernando to reach the new Civic Center area, located near 5th and 6th.
- Vasona LRT from Downtown San Jose to Downtown Campbell is funded through the County's Measure A/B program.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$25 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This extension would serve the new Civic Center area in Downtown San Jose.

Project Title

East Valley LRT: Evergreen Area to Downtown San Jose

Project Description

Provide rapid transit facilities and services connecting the East San Jose/Evergreen area with Downtown San Jose. Pending completion of the Major Investment Study (MIS), the option assumed in the Blueprint assumes two new LRT lines and one bus rapid transit (BRT) line.

- The first LRT line would run east-west extending east from the Vasona LRT line beginning near the Diridon Station and terminating at the Capitol LRT line.
- A second LRT line would initially run north-south along Capitol Expressway extending from the planned and funded Capitol line to the Guadalupe LRT line. It could potentially be implemented in phases with an initial segment terminating at Eastridge Mall.
- The BRT line would extend along Monterey Highway from the Diridon Station to the Santa Teresa LRT Station. Buses would travel in existing general traffic lanes on Monterey Highway, with potential improvements including queue-jump lanes at congested intersections, signal priority and significant bus stop improvements.

Project Background

- Santa Clara Valley Transportation Authority (VTA) is currently undertaking a MIS to determine the most appropriate mix of rail and/or bus services in the corridor. (The study area includes Evergreen-Downtown, Capitol and Alum Rock corridors.)
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

10 minute headways, peak and off-peak, 24 hours a day

Estimated Costs

Capital: \$763 million (2000\$)

Total Annual Operating Cost: \$9.8 million

Farebox Recovery Assumed: \$2.2 million

Net Annual Operating Cost: \$7.6 million

Observations/Issues

- This corridor has the highest level of potential transit ridership in Santa Clara County.
- Transit services will connect East San Jose residential areas with employment/commercial activities in San Jose's downtown and employment centers in Milpitas, north San Jose, Santa Clara, Sunnyvale and Mountain View; and will reduce the impacts of East County growth on Santa Clara County roads.
- Transit services will be coordinated with land use planning to achieve planning goals aimed at intensifying development patterns throughout the corridor.
- Some of the potential LRT alignments have significant right-of-way constraints.

Project Title

Expand Caltrain Service from San Jose to Gilroy

Project Description

Double track Caltrain from San Jose to Gilroy, a distance of approximately 35 miles. Upgrade station facilities, construct Bailey Road Station, provide additional parking and increase the number of daily weekday round trips.

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Service enhancements are detailed in Caltrain's *Rapid Rail Study* (October 1998).
- Double tracking is included in VTA's planning study of Santa Clara County's Caltrain corridor.

Proposed Operating Scenario

Increase the number of weekday round trips from 4 (peak period/peak direction) to 8 and eventually to 12 round trips

Estimated Costs

Capital: \$51.5 million (1999\$)

Total Annual Operating Cost: \$9 to \$14 million for increased service (1999\$)

Farebox Recovery Assumed: \$1.2 to \$1.8 million (1999\$)

Net Annual Operating Cost: \$7.8 to \$12.2 million (1999\$)

Observations/Issues

- Upgraded service will improve Caltrain's ability to attract commuters living in South County and working in North County and visa versa; service will provide alternatives to the auto and help address congestion on US 101.
- Opportunities to increase the frequency of service on the UP line south of San Jose will require negotiating with UP to lease access rights to UP tracks for Caltrain use and to develop operating scenarios that permit the sharing of tracks by both freight and passenger trains.
- See next project regarding Caltrain service south to Hollister, in San Benito County and/or to Salinas and/or the City of Monterey in Monterey County.
- See Peninsula Corridor fact sheets for more details on Caltrain service between San Francisco and San Jose.

Project Title

Extend Caltrain Service from Gilroy to Salinas and/or Hollister

Project Description

Extend Caltrain service to Salinas and/or Hollister with 2 to 4 daily round trips in the peak period only. Includes rolling stock and track improvements, exclusive of the San Benito spur line, which San Benito has funds to purchase.

Project Background

- Two train sets assumed, but could be eliminated if existing Caltrans trips can be extended without impact on other planned Caltrain expansion.
- Half of current Gilroy passengers come from south of Gilroy.

Proposed Operating Scenario

2 to 4 round trips daily (peak period only)

Estimated Costs

Capital: \$15-25 million (1999\$) for track improvements and \$15-20 million for rolling stock (assumes 2 train sets)

Total Annual Operating Cost: \$2 million for expanded service (1999\$)

Farebox Recovery Assumed: \$0.6 million (1999\$)

Net Annual Operating Cost: \$1.4 million (1999\$)

Observations/Issues

- Service will provide alternatives to the auto and help address congestion on US 101.
- Ultimately it may prove viable to extend some level of Caltrain service south to Hollister, in San Benito County and/or to Salinas and/or the City of Monterey in Monterey County (other rail options include VTA Commuter Rail Service and the Capitols). Current estimates of ridership to and from these cities indicate that for the present and near term, there would be insufficient levels of ridership to justify any rail service.
- See Peninsula Corridor fact sheets for more details on Caltrain service between San Francisco and San Jose.

Project Title

San Jose Airport Rail Connector (Connector between Guadalupe Light Rail Transit, Santa Clara Caltrain Station and San Jose International Airport)

Project Description

Provide a transit connection between Guadalupe LRT, San Jose International Airport and Santa Clara Caltrain Station, a distance of approximately 2 miles. Specific technology, alignment and operating strategy to be determined.

Project Background

- San Jose Airport Master Planning efforts include development of a Transportation Access Plan.
- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$206 to \$309 million (1999\$)

Total Annual Operating Cost: \$0.77 million (1999 \$)

Farebox Recovery Assumed: \$0.07 million (1999\$)

Net Annual Operating Cost: \$0.70 million (1999\$)

Observations/Issues

- The transit connector could be a people mover or other technology.
- The project will assist in achieving the airport's goal of accommodating 15% of the airport's ground access by transit by 2005.
- Roles and responsibilities (who would build and who would operate the system) are still under consideration.

Project Title

Upgrade SR 152 to Expressway

Project Description

Upgrade SR 152 to a 4-lane expressway from US 101 in Gilroy to SR 156 at the San Benito County Line, a distance of approximately 10 miles. Upgrade would include curve straightening and some segments on new alignment.

Project Background

- Caltrans completed a DEIR/DEIS in 1994 on an SR 152 expressway project. Alternatives evaluated included upgrades of existing SR 152 from Santa Teresa Blvd. in Gilroy to its junction with SR 156 at the San Benito line and upgrading Santa Teresa Blvd. south to US 101 and extending the expressway into San Benito County through the SR 25 corridor. Failure to gain political support from the two counties for any of the alternatives evaluated resulted in the project being put on hold.
- Caltrans is reactivating the project.
- The 1998 STIP provides \$7 million for an SR 152 corridor study (scope to be determined).

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$309 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Issues include selection of an alignment, need for additional right-of-way, and environmental impacts.

Project Title

Widening US 101 to 8 lanes (includes 2 HOV lanes) from Bernal Road in San Jose to Cochrane Road in Morgan Hill

Project Description

Widen US 101 from 6 to 8 lanes to provide northbound and southbound HOV lanes from Bernal Rd. in San Jose to Cochrane Road in Morgan Hill

Project Background

- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.
- The project is consistent with MTC's, 1997 *HOV Lane Master Plan Update*
- The project to widen this segment of US 101 from 4 to 6 lanes is in Track 1 of the RTP.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$20 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- When implemented, the project will permit HOV lane users to travel in both directions on US 101 from Cochrane Road in Morgan Hill to Redwood City.

Project Title

US 101 widening (including 2 HOV lanes) from Cochrane Road in Morgan Hill to SR 25 near the Santa Clara County Line

Project Description

Widen US 101 from 6 to 8 lanes (and 4 to 6 lanes closer to the county line) to provide northbound and southbound HOV lanes from Cochrane Road in Morgan Hill to SR 25 near the Santa Clara County line

Project Background

- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$100 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- When implemented the project will permit HOV lane users to travel in both directions on US 101 from SR 25 near the Santa Clara County line to Redwood City.

Project Title

Extension of Santa Teresa Blvd.

Project Description

Extend Santa Teresa Blvd. north from SR 152 (Hecker Pass Highway) to Fitzgerald Road/Masten Avenue. Extend Santa Teresa Blvd. south from Castro Valley Road to Bloomfield Avenue/US 101.

Project Background

- Gilroy has identified these gap closures as critical needs.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$41.2 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Project will improve capacity for local traffic and discourage use of parallel US 101 for short distance travel.
- Project will involve both upgrading existing facility and extending it to the north and south.

Project Title

SR 237 Widening (includes 2 HOV lanes) from US 101 to SR 85

Observations/Issues

- None

Project Description

Widen SR 237 from 4 to 6 lanes to provide eastbound and westbound HOV lanes from US 101 to SR 85

Project Background

- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.
- Portions of SR 237 between US 101 and SR 85 are already 6 lanes, including 2 HOV lanes.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$35 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

SR 85 Widening US 101 from 6 to 8 lanes from I-280 to Fremont Ave.

Project Description

Widen SR 85 from 6 to 8 lanes to provide northbound and southbound HOV lanes from I-280 to Fremont Ave.

Project Background

- VTA has identified this project in the draft Valley Transportation Plan 2020 priority list.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$15 million (1999\$)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project will address queuing issues associated with the existing configuration of SR 85.

	Current	Proposed
	Highway	Highway
	Phase 1	Phase 1
South County		
VTA	40	30
SR 85	—	—
San Jose County		
VTA	25	15
SR 85	—	—
VTA	15	15
SR 101	—	—
VTA	40	15
SR 102	—	—
VTA	20	30
SR 104	—	—
VTA	40	15
SR 101	—	—
VTA	—	15
SR 102	—	—

Project Title

Expanded VTA Bus Service

Project Description

Expand bus service throughout Santa Clara County with a focus on the following service areas:

- South San Jose
- East San Jose/Milpitas
- Central San Jose/West County
- South County, including service to Santa Cruz
- Includes additional express bus service.

Project Background

- Evaluation of service needs and identification of service enhancements is part of VTA's Strategic Plan (1996-2006) and VTP 2020.

Proposed Operating Scenario

TBD

Estimated Costs

Capital: \$77.3 million (for buses) (1999\$)

Total Annual Operating Cost: \$72.1 million (1999\$)

Farebox Recovery Assumed: \$11.3 million

Net Annual Operating Cost: \$60.8 million (1999\$)

Observations/Issues

- Improvements will emphasize enhanced service to major transit hubs (Caltrain and BART) and major trip generators (shopping centers, activity areas, etc.).
- Scope of service upgrades is still being determined.
- VTA's Strategic Plan has a goal of increasing the system's farebox recovery rate to 25% over 10 years by adding new riders, increasing the average fare per rider, and reducing VTA's operating cost.

Project Title

New and Enhanced Rapid Bus Service (Intra Santa Clara County)

Project Description

Provide new or enhanced rapid bus service within Santa Clara County with a focus on the following service areas:

- Gilroy-San Jose
- Almaden Valley/Lockheed
- South San Jose-Palo Alto (I-280 and SR 85)
- South San Jose-Mountain View/SR 85
- Milpitas-Palo Alto
- East San Jose-Sunnyvale
- East San Jose-Palo Alto/I-280
- Milpitas/South San Jose
- El Camino/Santa Clara St.

Project Background

N/A

Proposed Operating Scenario

Intra Santa Clara County:

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
South County				
VTA 521	90	--	30	60
South San Jose				
VTA 128	25	--	15	60
VTA 101	15	--	15	60
VTA 102	40	--	15	60
VTA 304	60	--	30	60
VTA 501	40	--	15	60
VTA New	--	--	15	60

Continued:

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
East San Jose / Milpitas				
VTA 104	15	--	15	60
VTA 145	45	--	15	60
VTA 503	25	--	15	60
VTA New	--	--	15	60
VTA New	--	--	15	60
Central San Jose/West County				
VTA 22	15	20	10	15
VTA2 2	15	20	10	15
VTA3 00	20	30	10	15

Estimated Costs

Intra Santa Clara County:

Capital: \$19.0 million (1999\$)

Total Annual Operating Cost: \$16.1 million (1999\$)

Farebox Recovery Assumed: \$2.5 million (1999\$)

Net Annual Operating Cost: \$13.6 million (1999\$)

Observations/Issues

- Improvements will emphasize enhanced service to major transit hubs (Caltrain and BART) and major trip generators (shopping centers, activity areas, etc.).

Project Title

Montague Expressway Corridor Improvements

Project Description

Corridor improvements include:

- Preliminary engineering and environmental studies of Montague Expressway widening and interchange improvements.
- Widening of Montague Expressway from I-680 to US 101 from 6 to 8 lanes
- Grade separations at key intersections in the Montague Expressway corridor.

Project Background

- Project is being evaluated by VTA.
- The 1998 RTP Track 1 includes \$30 million for preliminary engineering and environmental studies associated with improvements to Montague Expressway interchanges. The Blueprint would accelerate the delivery of this project.
- The 1998 RTP Track 1 includes \$54.2 million (escalated) for the widening of Montague Expressway from I-680 to US 101 from 6 to 8 lanes. The Blueprint would accelerate the delivery of this project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

- \$75 million for grade separations (1999\$)
- \$4.5 million for preliminary engineering and environmental studies for expressway widening (1999\$)
- \$29.5 (1999\$) million for widening of Montague Expressway.

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- The current AM and PM congestion on Montague Expressway will be significantly reduced by the widening and by construction of grade separations at key intersections.
- \$4.5 million for preliminary engineering and environmental studies for expressway widening has been allocated and is projected to be completed by 2002.
- Widening Montague Expressway to 8 lanes will provide HOV lanes in both directions. Currently, Montague Expressway has a HOV lane in the westbound direction in the morning and in the eastbound direction in the afternoon.

Project Title

Countywide Freeway Interchange Upgrades

Project Description

Improve local freeway interchanges in the cities of Campbell, Cupertino, Gilroy, Morgan Hill, Mountain View, San Jose, and Santa Clara

Project Background

- The cities referenced above have identified approximately 16 priority interchange projects involving changes to ramp capacities and operational characteristics.
- These projects are in various stages of design and engineering.

Potential Projects

- SR 17/San Tomas Expressway interchange improvements - \$3 million
- Lawrence Expressway/I-280 interchange: modify existing ramp - \$15 million
- US 101/10th St. interchange improvements in Gilroy - \$2.5 million
- US 101/Tennant Ave. interchange improvements in Morgan Hill - \$5 million
- US 101/Trimble/De La Cruz/Central Expressway interchange improvements - \$25 million
- US 101/Fourth Street and Zanker Rd. interchange - \$30 million
- US 101/Tully Rd. interchange improvements - \$15 million
- US 101/Hellyer interchange improvements and widen Hellyer - \$5 million
- US 101/Blossom Hill interchange improvements and widen Blossom Hill Rd. - \$10 million
- US 101/Coyote Valley Parkway: new interchange - \$20 million
- US 101/Bailey Ave.: new interchange at - \$20 million
- I-280 downtown San Jose access improvements, extend 7th St. off-ramp to 3rd St. - \$10 million
- I-880/Brokaw interchange improvements - \$35 million
- I-880/Stevens Creek interchange improvements - \$5 million

- US 101/SR 25 interchange improvements - \$10 million
- Additional direct HOV connectors - \$60 million

Estimated Costs

Capital: \$270 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Projects will mitigate traffic impacts on local streets, improve freeway access and provide for operational improvements on the freeways and in the interchanges.

Project Title

Countywide Freeway Auxiliary Lanes and Expressway Improvements

Project Description

Construct auxiliary lanes between freeway interchanges and provide improvements on the expressway system

Project Background

- The cities have identified three priority auxiliary projects:
 - SR 237 westbound auxiliary lanes from I-880 interchange to the North 1st Street Exist - \$5 million
 - SR 85: add auxiliary lanes from Cottle to SR 87 - \$10 million
 - US 101: add auxiliary lanes from Tully Rd. to Bernal Rd. - \$10 million
- These projects are in various stages of design and engineering.
- VTA, in cooperation with Santa Clara County, plans to conduct studies to identify and prioritize expressway improvements.

Proposed Operating Scenario

N/A

Estimated Costs

Capital:

- \$25 million (1999\$) for freeway auxiliary lanes
- \$200 million (1999\$) for expressway improvements

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Projects intended to help alleviate increasing mainline congestion in freeway or expressway segments with high traffic volumes

Project Title

Measure A/B Rail Projects

Project Description

- Extend Tasman light rail line facilities and services from Baypointe (just west of North First Street) to Capitol Expressway and Alum Rock Avenue, approximately eight miles.
- Extend light rail line facilities and services from downtown San Jose to downtown Campbell (Vasona Corridor light rail extension).
- Construct stations, extend tracks, acquire vehicles, construct parking, and rapid transit facilities and provide services through the County's Measure A/B program.
- Improve Caltrain service and capital facilities within Santa Clara County, including station improvements, track upgrades, rolling stock, operational facilities and supporting equipment.
- Extend commuter rail-type service from Downtown San Jose to Union City in Alameda County using conventional diesel rail technology on existing Union Pacific alignments (see Fremont-South Bay Corridor).

Project Background

- Included in the 1998 Regional Transportation Plan (RTP).
- These projects are consistent with VTA's Strategic Plan, based on the vision and mission statements adopted by the VTA Board in 1995, VTA's Short Range Transit Plan, and VTP 2020.

Proposed Operating Scenario

Service is expected to be comparable in frequency and capacity to that of the existing light rail and Caltrain services, except that the Fremont-South Bay Corridor service will initially be provided during the peak hours only.

Estimated Costs

Capital: \$864 million (1999\$)

Net Annual Operating Costs: increase from \$0.8 million/year (1999 \$) in 2000-2001 to \$22.4 million/year (1999\$) in 2004-2005 as light rail extension projects are completed and come on line.

Total Annual Operating Cost Through 2018: \$336 million (1999\$)

Farebox Recovery Assumed: 14% to 18%

Net Annual Operating Cost through 2018: \$278 million (1999\$)

VTA's Strategic Plan has a goal of increasing the system's fare box recovery rate to 25% over 10 years by adding new riders, increasing the average fare per rider and reducing VTA's operating cost.

Observations/Issues

- Expanded rail service will improve VTA's ability to provide alternatives to the auto and help address roadway congestion.
- Rail services will connect residential areas with employment and commercial activities in San Jose's downtown and will reduce the impacts of county growth on congested roads.
- Rail services will be coordinated with land use planning to achieve planning goals aimed at intensifying development patterns throughout the corridor.
- Rail improvements will emphasize enhanced service to major transit hubs (Caltrain and BART) and major trip generators (shopping centers, activity areas, etc.).

Project Title

Countywide Roadway Connections and
Freeway/Creek Overcrossings

Observations/Issues

- Many of these projects are at the conceptual level and require further scope development.

Project Description

Construct the following roadway connections and freeway/creek crossings to enhance the connectivity of the existing roadway system:

- US 101 overcrossing at Cohansey and Cohansey Extension - \$3.5 million
- US 101 overcrossing at Mesa Road - \$2.5 million
- Charcot Ave. at I-880: new 4-lane overcrossing - \$30 million
- Branham Lane at US 101: new 4-lane overcrossing - \$15 million

Project Background

- Projects will be prioritized in the VTP 2020 process.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$51 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Silicon Valley ITS System and SMART Corridor Additions

Project Description

This project would implement a fully functional Traffic Management Center in San Jose to coordinate countywide ITS and SMART corridor operations and with VTA's light rail system. It also provides for upgrading all traffic signals in the County, installing fiber optics, video detection, dynamic message signs, closed circuit television cameras, extinguishable message signs, on-street traffic sensors and data collection stations.

Project Background

- This project is a continuation of ongoing efforts in Santa Clara County to provide Intelligent Transportation System (ITS) elements.
- Some funds for this project are in Track 1 of the RTP. The Blueprint would accelerate the delivery of this project.

Proposed Operating Scenario

The system will be operated and maintained by local cities and the County.

Estimated Costs

Capital: \$103 million (1999\$)

Total Annual Operating Cost: TBD

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- ITS and SMART Corridor strategies (incident management, message signs, electronic traffic monitoring devices, signal interconnections, etc.) are currently enabling Santa Clara County and its cities to better manage traffic.

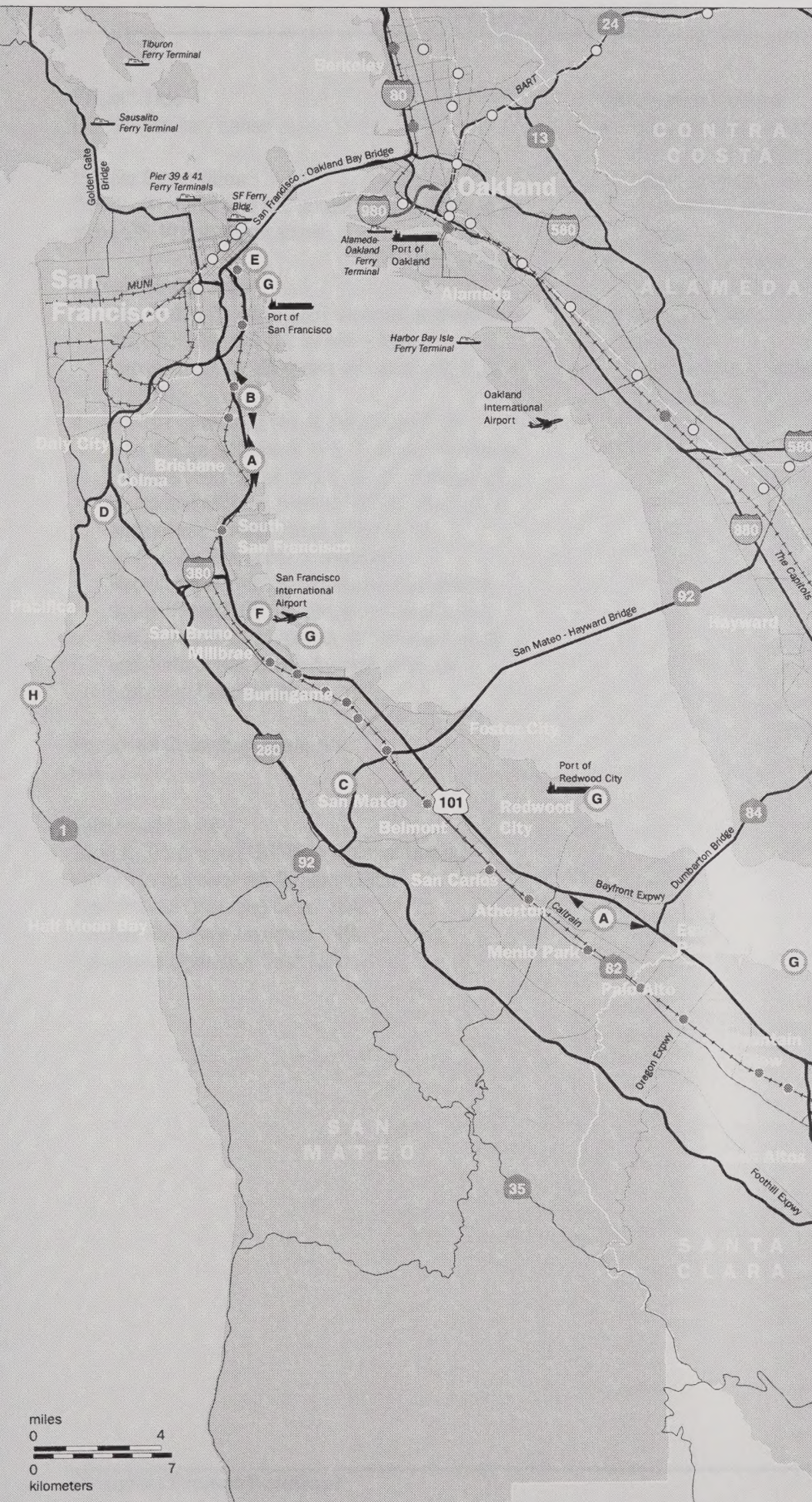
Section M

**Peninsula
Corridor**

- A** US 101 Auxiliary Lanes
- B** US 101 Interchange Modifications
- C** Widen Route 92 between US 101 and I-280 from 4 to 6 lanes
- D** Improve Connection from Eastbound Route 1 to Southbound I-280 and Serramonte Boulevard
- E** Caltrain San Francisco Downtown Extension
- F** Airport Light Rail System (ARLS) Connection to Caltrain
- G** New Peninsula Corridor Ferry Services (Terminal Locations)
- H** Devil's Slide Tunnel

- Caltrain Grade Separations
- Enhanced Express Bus Service
- Caltrain Electrification
- Caltrain Mass Transit Service (All Day, More Frequent Service)
- Caltrain Rapid Rail Improvements

	Interstate Highway
	State Highway
	U.S. Highway
	Freeway
	Other Highway
	Major Arterial
	Airport
	Port
	Ferry Terminal
	Rail Line
	Amtrak Station
	ACE Station
	Caltrain Station
	BART Line/Station



Project Title

US 101 Auxiliary Lanes

Project Description

Construct northbound and southbound auxiliary lanes along US 101 at key locations.

Project Background

- San Mateo County's 1988 sales tax expenditure plan identified US 101 auxiliary lane improvements totaling an estimated \$188 million (1988\$).
- US 101 auxiliary lanes at the Oyster Point interchange and between E. Third St. and Route 92 have been completed; projects between San Bruno and Millbrae Avenues (adjacent to SFO) and between Marsh Rd and SR 92 are programmed or under construction.
- Remaining US 101 auxiliary lane priorities are south of Marsh Rd, to the Santa Clara County line and north of 3rd Avenue to Millbrae Avenue and north of San Bruno Avenue to the San Francisco County line.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$75 million (1999\$) in regional funding needed to complete the Strategic Plan

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- MTC recently completed a San Mateo US 101 Operational Analysis and found that auxiliary lanes were the most effective traffic relief project given the physical constraints to adding new lanes.
- The MTC analysis found that auxiliary lanes, combined with ramp metering could be an effective means of eliminating key bottleneck locations.
- Any significant additional corridor capacity will need to be provided by mass transit.

Project Title

US 101 Interchange Modifications

Project Description

Modify older interchanges and improve ramp connections along US 101 at key locations.

Project Background

- San Mateo County's 1988 sales tax expenditure plan identified US 101 interchange modification projects totaling an estimated \$300 million (1988\$).
- San Mateo County Transportation Authority (SMCTA) has funded interchange improvements at Oyster Point and March Road; new ramps were added at Brittan Road.
- The SMCTA Strategic Plan also includes additional interchange modifications beyond RTP Track 1 at Candlestick and Broadway.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$54.6 million (1999\$) in regional funding needed to complete the Strategic Plan

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Interchange modifications will provide improved access to land uses previously not served.
- The MTC analysis found that auxiliary lanes, combined with ramp metering could be an effective means of eliminating key bottleneck locations.
- Any significant additional corridor capacity will need to be provided by mass transit.

Project Title

Widen Route 92 between US 101 and I-280 from 4 to 6 lanes

Project Description

Route 92 between US 101 and I-280 has two lanes in each direction. Route 92 between US 101 and San Mateo Bridge was widened to 3 lanes in each direction a few years ago with Regional Measure 1 funds.

Project Background

- Identified in San Mateo County's Sales Tax Expenditure Plan.
- Route 92 is or will be widened to 3 lanes in each direction from the I-880/92 interchange in Alameda County to US 101/92 in San Mateo County.
- New widening projects, including widening of the San Mateo Bridge, are being funded by Regional Measure 1 bridge tolls

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$100 million (1999\$) (SMCTA Strategic Plan)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project would provide lane continuity between I-280 in San Mateo County and I-880 in Alameda County.
- It would also provide alternative access from I-280 to Route 92 to US 101, thus bypassing congested parts of US 101 through Central San Mateo County
- An extra lane is most needed in westbound (uphill direction) due to slower vehicles traveling up a steep grade.
- This project would serve the growing Route 92 commute market from the coast.

Project Title

Improve connection from eastbound Route 1 to southbound I-280 and Serramonte Boulevard

Project Description

The eastbound Route 1 to southbound I-280 connector is a short radius curve that leads to a very short auxiliary lane for traffic accessing I-280 or exiting at Serramonte Boulevard. The proposed solution would be to separate traffic getting on eastbound I-280 from traffic exiting to Serramonte Boulevard

Project Background

- Identified in San Mateo County's Sales Tax Expenditure Plan.
- Proximity of Rte.1/I-280 interchange and I-280/Serramonte interchange is substandard.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: TBD

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- This project is designed to improve weaving on I-280, which creates safety and congestion problems.
- It would serve Serramonte, which is a large and growing retail area.

Project Title

Caltrain San Francisco Downtown Extension

Project Description

Extend Caltrain service from current San Francisco terminus at 4th and Townsend Streets 1.5 miles to an underground or aboveground station at the Transbay Terminal site.

Project Background

- Included in MTC's existing New Rail Starts and Extensions Program (Resolution No. 1876).
- Lack of sufficient local financial commitment has stalled project over a number of years.
- Most recent effort was completion of DTX Draft DTX DEIR in March 1997.
- The Peninsula Joint Powers Board (JPB) subsequently re-directed efforts on its Caltrain Rapid Rail Plan, which focused on system maintenance and upgrades.
- San Francisco has renewed interest in the project as part of a new/rebuilt Transbay Terminal.
- MTC study currently evaluating potential Caltrain and other rail connections at Transbay Terminal site.
- MTC staff currently looking at potential terminal configurations.

Proposed Operating Scenario

The Caltrain Downtown Extension Draft Environmental Impact Statement/Report (DTX DEIR) assumed a maximum 86-weekday train schedule for travel demand forecasting and financial estimating purposes. The proposed 6-track terminal was determined to more than sufficient to accommodate future operating scenarios.

Estimated Costs (from 1997 Downtown Extension DEIS/DEIR)

- Capital: \$701.1 million (1999\$)
- Total Annual Operating Cost: \$8.7 million (S.F. operating increment for 86 weekday train schedule in 1999\$)
- Farebox Recovery Assumed: Greater than 100% for operating increment
- Net Annual Operating Cost: Surplus

Observations/Issues

- San Francisco now views the Caltrain extension/Transbay Terminal site as key to linking important rail (Caltrain, intercity, HSR) and bus services
- Caltrain service is seen as an important linkage to South-of-Market development, including PacBell Stadium and Mission Bay.
- A downtown station would also serve a redevelopment area around Transbay Terminal.
- The downtown extension better serve a growing reverse commute from S.F. to San Mateo/Santa Clara counties.
- Electrification would be needed for at least the underground subway portion in San Francisco.

Project Title

Airport Light Rail System (ALRS) Connection to Caltrain

Project Description

The Airport ALRS would extend the existing system under construction (between the Ground Transportation Center and the main terminals and the United Airlines Maintenance Facility) across US 101 and connect to the re-located San Bruno Caltrain station just north of I-380.

Project Background

- SFO is currently implementing its \$2 billion Master Plan, which includes expanded and new terminals, a Ground Transportation Center and an ALRS to provide internal Airport circulation.
- Current planned SFO Caltrain access will be via a BART shuttle from the Millbrae intermodal station.
- The Caltrain Rapid Rail Study (1998) recommended that the ALRS be considered once the SFO Master Plan expansion has been completed.
- The JPB commissioned a 1996 study of potential Caltrain/ALRS connections in its Caltrain-SFO Light Rail System Connection Feasibility Study. The JPB recommended two Caltrain connection alternatives: 1) via I-380 as described above (Alternative 3B), and 2) directly across from the main terminals (Alternative 5).
- In 1998, the San Mateo County Transportation Authority (SMCTA) passed a resolution supporting a direct Caltrain/SFO rail connection as a high priority. The San Francisco, San Mateo and Santa Clara Boards of Supervisors passed similar resolutions.

Proposed Operating Scenario

Inbound and outbound ALRS tracks to Caltrain would branch off just north of the United Airlines Maintenance Facility (UAL). Inbound trains would travel from Caltrain to the main SFO terminals in a counterclockwise direction, then out again toward the UAL, across US 101, then back to the Caltrain station.

Peak-hour ALRS headways would be 2 minutes and 12 to 15 minutes during off-peak Caltrain service hours.

Estimated Costs

(From 1992 Electrification Study)

Capital: \$123.6 million (1999\$) - SMCTA has allocated \$60 million to the project

Total Annual Operating Cost: \$6.2 million (1999\$)

Farebox Recovery Assumed: No Fare Proposed

Net Annual Operating Cost: N/A

Observations/Issues

- Without the ALRS, Caltrain passengers traveling to SFO could be required to transfer twice (to BART and the ALRS), depending on their final destination.
- ALRS at San Bruno would provide convenient access to jobs at UAL.
- SFO believes that ALRS connection may not be cost effective given the SFO/BART connection at Millbrae, which is currently under construction.
- Since alignment is mostly off-SFO property, Airport funds cannot be legally used for the project.

Project Title

New Peninsula Corridor Ferry Services

Project Description

Various ferry services have been proposed to serve locations along the Peninsula waterfront. The basic ferry routes include:

- Redwood City/Mission Bay/S.F. Ferry Terminal
- Moffett Field/Mission Bay/S.F. Ferry Terminal
- S.F. International Airport (SFO)/S.F. Ferry Terminal
- SFO/Moffett Field

Project Background

- MTC first adopted a Regional Ferry Plan in 1992. The plan examined 17 potential new ferry service routes, including Redwood City/SF, SFO/SF and SFO/Moffett Field. These routes were not recommended due to low projected ridership and high implementation costs
- MTC's recent Regional Ferry Plan Update (March 1999) focused mostly on short-term improvements for existing or recommended ferry services. Recommendations for land-side improvements to the S.F. Ferry Terminal would benefit several of the proposed Peninsula ferry services
- The Bay Area Council's Blue Ribbon Task Force recommended an expansive regional ferry system in its February 1999 report, which included the introduction of new Peninsula ferry service
- The Port of Redwood City has created a "Fact Finding Panel" to consider ferry service opportunities. East Bay and San Francisco are considered the two most significant service areas from Redwood City.
- The City of South San Francisco and the Harbor District have created a panel to investigate and promote ferry service from the Oyster Point Marina.

Proposed Operating Scenario

Routes/Stops	Peak Headway	Off-Peak Headway
Redwood City/Mission Bay/S.F. Ferry Terminal	30 min.	60 min
Moffett Field/Mission Bay/S.F. Ferry Terminal	30 min.	60 min
S.F. International Airport (SFO)/S.F. Ferry Terminal	20 min.	60 min.
SFO/Moffett Field	30 min.	60 min.

Estimated Costs (From Bay Area Council Report)

Capital:

Routes/Stops	Cost (millions)*
Redwood City/Mission Bay/S.F. Ferry Terminal	\$18.7
Moffett Field/Mission Bay/S.F. Ferry Terminal	\$24.7
S.F. International Airport (SFO)/S.F. Ferry Terminal	\$21.0
SFO/Moffett Field	\$28.0

* Includes feeder bus costs

Total Annual Operating Cost:

Routes/Stops	Total Costs	Net Cost	Farebox
Redwood City/Mission Bay/S.F. Ferry Terminal	\$8.0	\$5.4	32%
Moffett Field/Mission Bay/S.F. Ferry Terminal	\$10.3	\$8.0	25%
S.F. International Airport (SFO)/S.F. Ferry Terminal	\$8.1	\$11.4	141%
SFO/Moffett Field	\$9.0	\$2.4	73%

* Includes feeder bus costs ** In millions

Observations/Issues

- Much of the Peninsula's new and planned office space is on the east side of US 101. Proposed ferry terminals could potentially serve these developments.
- Ferry service would require extensive feeder bus service to be effective because most rider destinations would be removed from the immediate terminal area.
- Landside access at Moffett Field may impact environmentally sensitive areas.
- Port of Redwood City and South San Francisco support some level of ferry service to their respective jurisdictions.
- Due to inaccessibility and access issues, ferry service will not be able to effectively serve the high employment markets in Silicon Valley.

Project Title

Devil's Slide Tunnel

Project Description

Construct inland tunnel that bypasses current coastal alignment that is subject to periodic closures due to slides/slipouts

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Plans for an inland surface bypass first developed back in early 1960s
- Lack of funding and various lawsuits opposing the bypass have stalled the project
- San Mateo County voters overwhelmingly passed a November 1996 initiative that called for the Devil's Slide area be bypassed by a two-lane tunnel
- Caltrans has recently completed the tunnel's draft environmental analysis; the final analysis will be completed by February 2000

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$144 million (1999\$) (project included in 1998 RTP)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Project included in 1998 RTP, but included in Blueprint to consider acceleration if new funding available
- TEA-21 included a \$1.1 million earmark plus authorization to receive continuously appropriated California emergency relief funding

Project Title

Caltrain Grade Separations

Project Description

The Caltrain Rapid Rail Study recommends construction of 14 grade separation projects, which include 21 separate grade crossings. Six projects are in Santa Clara County with the remaining 8 projects in San Mateo County.

Project Background

- The Caltrain line has 52 at-grade vehicular crossings and 69 grade-separated crossings between the 4th and Townsend station in San Francisco and the Tamien station in San Jose (owned by the JPB); another 36 at-grade crossings and 14 grade-separated crossings are between Tamien and Gilroy (owned by Union Pacific).
- The San Mateo County Sales Tax Expenditure Plan includes funding for grade separations in the County; to date, 6 have been complete and another 3 are under construction.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$608 million (1999\$) (from 1998 Caltrain Rapid Rail Program)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Grade separations largely improve traffic circulation, but also provide some improvement to train safety and reliability.
- Grade separations have proven to be costly to implement, with costs exceeding \$20 - 25 million per separation.
- Grade separations will lessen expected increased traffic conflicts due to planned expanded train service and traffic growth.
- Grade separations will help simplify planned Caltrain electrification.
- Grade separations have not gained widespread support on the Peninsula due to high cost and perceived impacts to local land use.

Project Title

Enhanced Express Bus Service in the Peninsula Corridor

Project Description

Expand express bus service throughout the Peninsula to improve the following service areas:

- South San Mateo/northern Santa Clara County to Millbrae BART
- Redwood City to Palo Alto/Sunnyvale
- Central San Mateo County to Millbrae BART
- "Rapid Bus" improvements along El Camino (See Santa Clara Valley Subarea)

Project Background

- SamTrans currently operates a number of express bus routes in the corridor, serving mainly south San Mateo residents working in downtown San Francisco.
- Santa Clara VTA also provides some express bus service, mainly serving the Santa Clara Subarea Corridor; VTA also provides several local bus routes that connect with SamTrans' express bus routes to San Francisco.
- Santa Clara VTA will be assessing FTA-designated "Rapid Bus Routes", which will assess potential for high-frequency/high-capacity bus routes along the El Camino Real corridor.
- VTA has identified VTA Line 22 in the draft Valley Transportation Plan 2020 priority list.
- SamTrans is currently undergoing several changes as a result of a systemwide assessment and in anticipation of BART Colma and SFO extensions.

Proposed Operating Scenario

	Current Headways		Proposed Headways	
	Peak	Midday	Peak	Midday
Intra-San Mateo				
SamTrans 5M, 5L, 7B, 1F, 90H	16 – 100+	26 – 100+	15 – 30	15 – 30
South/Central/North San Mateo to San Francisco				
SamTrans 7F, 16F, 17F, 41F, 47F, 48F, 49F, New (SM to Colma), New (SM to Colma)	30 – 100+	30	15	15 – 60
San Mateo to Santa Clara				
SamTrans New (Redwood City-Lockheed), New (Redwood City-Palo Alto), New (SM-Palo Alto)	--	--	15	60

Estimated Costs

Intra San Mateo

Capital: \$8.8 million (1999\$) (25 buses)

Total Annual Operating Cost: \$9.6 million (1999\$)

Farebox Recovery Assumed: \$2.7 million (1999\$)

Net Annual Operating Cost: \$6.9 million (1999\$)

South/Central/North San Mateo to SF

Capital: \$14.08 million (1999\$) (40 buses)

Total Annual Operating Cost: \$10.4 million (1999\$)

Farebox Recovery Assumed: \$2.9 million (1999\$)

Net Annual Operating Cost: \$7.5 million (1999\$)

San Mateo to Santa Clara County

Capital: \$8.5 million (1999\$) (24 buses)

Total Annual Operating Cost: \$4.0 million (1999\$)

Farebox Recovery Assumed: \$1.1 million (1999\$)

Net Annual Operating Cost: \$2.9 million (1999\$)

Observations/Issues

- Bus improvements are intended to better serve growing Silicon Valley employment markets and existing San Francisco employment markets.
- Bus service provides more flexibility in serving growing employment centers east of US 101.
- Express bus system is compatible with existing or planned rail improvements.
- Added bus service could improve reliability.

Project Title

Caltrain Electrification

Project Description

Electrify the Caltrain system from Gilroy to San Francisco. Includes purchase of 23 electric locomotives.

Project Background

- Feasibility Study for Electrifying the Caltrain/PCS Railroad (October 1992) found that a 25kV AC system with catenary and electric locomotives pulling existing gallery cars would be most cost-effective way to electrify.
- Electrified Caltrain was evaluated as part of the Caltrain San Francisco Downtown Extension Draft EIR/EIS (March 1997).
- The JPB has identified electrification as a priority Caltrain project as part of its decisions on the recently completed Rapid Rail Study (October 1998).
- The JPB will begin an environmental analysis of Caltrain electrification later this year.

Proposed Operating Scenario

The Caltrain Downtown Extension Draft Environmental Impact Statement/Report (DTX DEIR) assumed an 86-weekday train schedule for travel demand forecasting and financial estimating purposes; however, there is not specific weekday schedule for the electrification project.

Estimated Costs

Capital: \$402.5 million (1999\$)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost (S.F. operating increment for 86 weekday train schedule in: \$8.1 million (1999\$) in additional operating costs at existing service levels

Observations/Issues

- Higher performance of electric trains is viewed as a way to improve operating flexibility, operating speeds and reduce travel times.
- Electrification will cost about \$7.4 million more annually to operate than diesel trains at existing service levels, which would require additional Caltrain operating subsidy.
- Electrification is viewed as a "good neighbor" policy due to reduced noise and improved air quality benefits.
- Electrification operating costs break-even with diesel service operating costs at a 114-weekday train schedule according to the Rapid Rail Study.

Project Title

Caltrain mass transit service (all day, more frequent service)

Project Description

Caltrain service would be expanded in conjunction with the downtown extension to Transbay Terminal and an electrified line between Gilroy and downtown San Francisco. Weekday train service would be expanded to about 158 trains per day.

Project Background

- Caltrain skip stop service was evaluated as an alternative of the Peninsula Mass Transit Study (March 1985).
- Electrified mass transit service was again evaluated as part of the Feasibility Study for Electrifying the Caltrain/PCS Railroad (October 1992).
- The Caltrain 20-Year Strategic Plan (1997 - 2017) envisions a maximum 106-train schedule, which provides some additional peak-hour service and 30-minute off-peak headways.

Proposed Operating Scenario

Peak period trains would operate as two lines that alternatively stop at every second station (sometimes called skip stop service), offering peak-hour frequencies to downtown San Francisco of approximately 5 to 7 minutes and off-peak service frequencies of 10 to 15 minutes. Both lines would serve key stations, including San Jose, Lawrence, Mountain View, Palo Alto, Hillsdale, Millbrae, 4th/Townsend, and Transbay Terminal.

Estimated Costs

Capital: \$43.1 million (1999\$) for 8 additional electric locomotives (from 1992 Electrification Study)
Total Annual Operating Cost: \$56.3 million (1999\$) additional compared to 66-train diesel service
Farebox Recovery Assumed: \$24.2 million (43%)
Net Annual Operating Cost: \$32.1 million

Observations/Issues

- At higher levels of service, grade separations of local streets and Caltrain tracks become important to avoid traffic delays.
- Some cities have constructed or will construct grade separations to improve vehicular traffic flows. Other cities have withdrawn their proposed projects over concerns that grade separations will disrupt local land uses.
- Grade separations are intended to primarily improve local street circulation, but will also increase train reliability.
- The grade separation program is funded roughly 50% with local sales tax funds, with the remainder coming from state, federal or regional sources.

Project Title

Caltrain Rapid Rail Improvements

Project Description

There are several capital projects identified in the Caltrain Rapid Rail Study that would support more frequent, faster and flexible service beyond upgrades included in the 1998 Regional Transportation Plan (RTP). These include:

- Cab Signaling and Automatic Train Control
- Super-elevate tracks for 90 mph speeds
- Additional pocket tracks for mid-line turnbacks
- Third track sections to allow train overtakes
- Parking expansion

Project Background

- Caltrain service is currently limited to a maximum of 79 mph; Cab control/ATC and track improvements would allow for 90 mph maximum
- The Caltrain 20-Year Strategic Plan (1997 - 2017) envisioned a maximum 106 train schedule, which provide some additional peak-hour service and 30 minute off-peak headways
- Some stations are at or near capacity and will require additional station parking at some stations

Proposed Operating Scenario

See “Caltrain Mass Transit Service” fact sheet for possible operating scenarios.

Estimated Costs

(From 1998 Caltrain Rapid Rail Program)

Capital: \$85.2 million (1999\$)

- Cab signal/ATC: \$14.4 million
- Super-elevate tracks: \$0.3 million
- Additional turnback tracks: \$10.3 million
- Additional third track sections: \$8.7 million
- Parking expansion: \$51.5 million

Total Annual Operating Cost: \$56.3 million (1999\$)

additional compared to 66-train diesel service

Farebox Recovery Assumed: \$24.2 million (43%) (1999\$)

Net Annual Operating Cost: \$32.1 million (1999\$)

Observations/Issues

- Third track and turnback tracks will provide more operating flexibility and better serve emerging markets along the Peninsula
- Capital projects will support expanded service, which in turn will support several planned or in progress transit oriented developments near Caltrain station.
- Increase speeds will improve Caltrain travel time and attract more riders.
- Expanded service will serve several of the largest growing markets in the Santa Clara Subarea.
- Projects will support rail transit level of service to the Peninsula.

Section N

**San
Francisco
Subarea**

San Francisco Subarea

- A

Doyle Drive Replacement
- B

Extension of Electric Trolley Bus Routes
- C

New 30th/Mission BART Station
- D

Fixed Guideway Routes:
Geary Corridor; North Beach Corridor; Van Ness Corridor
- E

3rd Street Light Rail Transit (LRT) Extension to Chinatown
- F

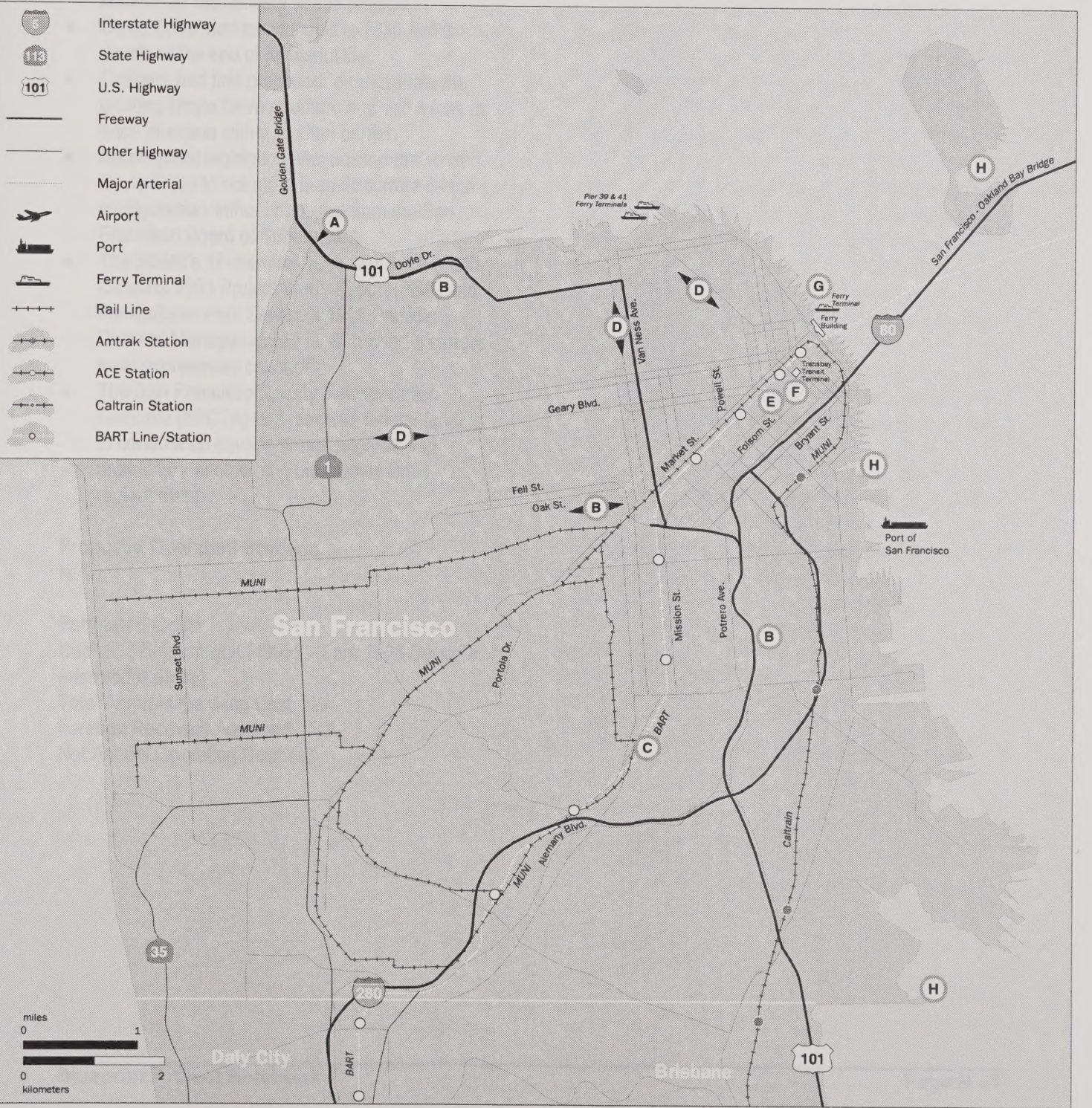
Caltrain San Francisco Downtown Extension (See Peninsula Corridor)
- G

Ferry Landside Expansion
- H

Expanded Transbay Ferry Service (Terminal Locations) (See Transbay Corridors)
- Not Mapped:

•

Expanded MUNI Rapid Bus Corridors



Project Title

Doyle Drive Replacement

Project Description

Replace existing Doyle Drive viaduct with a surface-level expressway

Project Background

- Included in the 1998 Regional Transportation Plan (RTP) Track 1. The Blueprint would accelerate the delivery of this project.
- Doyle Drive viaduct was built in 1936 and is nearly at the end of its useful life.
- Caltrans had first proposed to rehabilitate the existing Doyle Drive structure and add a lane in each direction with a median barrier.
- Subsequent legislation was passed that limited Doyle Drive to not more than its current 6-lane configuration without approval from the San Francisco Board of Supervisors.
- The Board's 17-member 1993 task force report, Caltrans 1993 Project Study Report (PSR) and the National Park Service's 1994 Presidio General Management Plan all support a surface-level expressway concept.
- The San Francisco County Transportation Authority (SFCTA) has received federal funding to conduct an environmental analysis and preliminary engineering on a Doyle Drive replacement.

Observations/Issues

- Project consistent with Presidio Master Planning.
- Median-separated expressway would provide improved safety compared to existing viaduct configuration.
- Surface expressway would provide better Presidio access than existing viaduct.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$220.2 million (1999\$) (from 1996 *Doyle Dr. Intermodal Study*)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Project Title

Extension of Electric Trolley Bus Routes

Project Description

This project would electrify Muni bus service on two main routes:

1. 71-Haight/Noriega
2. Extension of 41-Union and 45-Union/Stockton into the Presidio
3. Extend 33-Stanyan trolley over Potrero Hill along 48-Quintara

Project Background

- Project has long been included in Muni's Short Range Transit Plan (SRTP).
- Project is also included in San Francisco's Sales Tax Expenditure Plan.
- Project extends routes in specific corridors. This program targets routes currently served partially by electric trolley buses and partly by diesel buses.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$17.17 million (1999\$) (from Muni 1997 SRTP)

Total Annual Operating Cost: \$11.69 million (1999\$)

Farebox Recovery assumed: \$4.55 million (1999\$) (39%)

Net Annual Operating Cost: \$7.14 million (1999\$)

Observations/Issues

- Electrification of existing diesel lines would have air quality benefits and reduce noise.
- Some residents have expressed concerns about visual impacts of overhead wires.
- After the initial capital cost, electric trolleys are less expensive to operate than diesel buses.
- Extending trolley into the Presidio would support National Park development.

Project Title

New 30th/Mission BART Station

Project Description

Add new 30th Street/Mission BART station, between existing 24th Street and Glen Park BART stations, with a pocket track for turnbacks.

Project Background

- Phase II BART Extension Staging Policy includes a project in San Francisco to be identified through coordination with the City and County of San Francisco
- Under evaluation by BART and San Francisco County Transportation Authority (SFCTA)

Proposed Operating Scenario

Trains would stop at new station. Pocket track would allow for scheduled mid-line turnbacks (similar to what BART now does its Montgomery station during the a.m. peak) or for schedule recovery

Estimated Costs

Capital: \$300 million (1999\$) (from BART)

- \$200 million (pocket track)
- \$100 million (station)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Provides for more evenly spaced BART stations through southern San Francisco
- Supports San Francisco's plan to revitalize the Mission Corridor
- Good transfer point for several Muni bus lines and the J-Church Metro line
- Improves BART's flexibility for schedule recovery
- Additional station stop adds about 3 minutes to schedule
- Limited right-of-way available; station on 3% grade (BART criteria is 1% max.)
- Improves Advanced Automatic Train Control performance and improves operations for the BART /SFO Airport extension.

Project Title

Fixed Guideway Routes:

- Geary Corridor
- North Beach Corridor
- Van Ness Corridor

Project Description

- Geary Corridor: would be a median surface LRT on Geary from 48th Avenue to Laguna Street, then subway to Market (lower cost all-surface Geary alignments have been evaluated, but travel time savings are much lower compared to the subway option)
- North Beach: would be an extension of the proposed 3rd Street Central Subway terminus at Sacramento and would extend in subway to Union or Bay Street and continue on surface, connecting with the Muni F-Line near Fisherman's Wharf
- Van Ness Corridor: would extend from Sixteenth Street and Mission to Aquatic Park with the central section for south Market to Pacific Avenue as subway

Project Background

- The San Francisco County Transportation (SFCTA) Expenditure Plan identified the following four corridors for fixed guideway planning, design and construction: 3rd St, Geary, North Beach and Van Ness
- In 1995, the SFCTA adopted a Four Corridor Plan that recommended the 3rd Street LRT as top priority of the four corridors and proceed toward implementation; the remaining phases, in priority order are: Geary, North Beach, Van Ness
- 3rd Street Initial Operating Segment (IOS) between Caltrain 4th and Townsend terminus and Bayview-Hunters Point is a funded RTP project

Proposed Operating Scenario

There would be two lines within the proposed Central Subway: one from the Caltrain Bayshore station to Chinatown; and an additional line providing service between Chinatown and Third/Mariposa Streets to service Mission Bay. Also, the L-Taraval would be extended to the 4th/Townsend Caltrain terminal. Service on the two Third Street lines would operate 5-6 minutes in the peak and 10-12 minutes in the off-peak periods.

Estimated Costs

Capital: (1999\$)

(from SFCTA Four Corridor Plan)

Geary Corridor	\$206 - \$618 million
North Beach Corridor	\$592 - \$927 million
Van Ness Corridor	\$155 - \$695 million

Total Annual Operating Cost:

	Total Cost*	Farebox Recovery Assumed*	Net Cost*
Geary Corridor	\$5.55	\$1.69	\$3.86
North Beach Corridor	\$0.091	\$0.275	\$0.626
Van Ness Corridor	\$2.64	\$0.81	\$1.83

*in millions

Observations/Issues

- Projects intended to improve mobility beyond what is currently being provided by fairly extensive bus service
- Projects intended to optimize connectivity between other existing/proposed City LRT lines
- Van Ness project not eligible for SFCTA sales tax construction funds
- LRT improvements will be integrated with community revitalization projects

Project Title

3rd Street Light Rail Transit (LRT) Extension to Chinatown

Project Description

The 3rd Street LRT project is being planned in two phases. The first phase, the initial operating segment, is mostly funded and will be a surface alignment between the Visitacion/Little Hollywood area connecting to the Mission Bay Metro line and the Market St. Subway. The second phase would provide the Caltrain connection and continue up 3rd /Stockton Streets in subway configuration to Chinatown.

Project Background

- The San Francisco County Transportation (SFCTA) Expenditure Plan identified the following four corridors for fixed guideway planning, design and construction: 3rd St, Geary, North Beach and Van Ness
- The 1993 Bayshore Transit Study evaluated improvement options in the 3rd Street Corridor
- In 1995, the SFCTA adopted a Four Corridor Plan that recommended that 3rd Street LRT as top priority of the four corridors and proceed toward implementation; the plan also recommended the 3rd Street phased approach if funding was not fully available
- A final EIS/EIR on the 3rd Street LRT project, including the Central Subway extension to Chinatown, was certified in November 1998
- 3rd Street LRT project made eligible for federal New Starts funds in TEA-21
- The Phase 1, or Initial Operating Segment (IOS), has sufficient funding to construct; Phase 2 to Chinatown is not currently funded

Proposed Operating Scenario

There would be two lines within the proposed Central Subway: one from the Caltrain Bayshore station to Chinatown; and an additional line providing service between Chinatown and Third/Mariposa Streets to accommodate Mission Bay demand. Also, the L-Taraval would be extended to the 4th/Townsend Caltrain terminal. Service on the two Third Street lines would operate 5-6 minutes in the peak and 10-12 minutes in the off-peak periods.

Estimated Costs

Capital: \$536 million (1999\$) (Third Street LRT Project EIR/EIS)

Total Annual Operating Cost: \$3.2 million

Farebox Recovery Assumed: 28%

Net Annual Operating Cost: \$2.3 million

Observations/Issues

- Provides improved mobility for Bayview/Hunters Point and Visitacion Valley areas, which have the highest unemployment in the City
- Project will also connect growing housing and employment in Mission Bay with downtown San Francisco
- Only rail connection linking the north and south sides of San Francisco across Market Street.
- 3rd Street LRT improvements will be integrated with community revitalization along 3rd Street corridor
- Expand 3rd Street service intended to bring corridor service levels comparable to other sections of the City

Project Title

Caltrain San Francisco Downtown Extension (see Peninsula Corridor)

Project Title

Ferry Landside Expansion

Project Description

This project would provide for various landside dock improvement to support expanded ferry service to the S.F. Ferry Terminal and Treasure Island

Project Background

- MTC's Regional Ferry Plan Update (March 1999) recommended expansion of some existing ferry services to the S.F. Ferry Terminal, as well s new ferry services from Berkeley/Albany, Benicia/Martinez and Port Sonoma, all serving the S.F. Ferry Terminal.
- The Bay Area Council's Blue Ribbon Task Force recommended a greatly expanded regional ferry system in its February 1999 report. The Task Force proposed new ferry service to San Francisco at the S.F. Ferry Terminal and Pier 43, as well as new locations at the Presidio, Fort Mason, Pac Bell Park, Mission Bay, Hunters Point and 3Com Park

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$10 million (1999\$) (MTC's 1999 Ferry Plan Update)

Total Annual Operating Costs: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Expanded landside improvements would allow for more ferry service to S.F. employment markets
- Some landside improvement could involve sensitive environmental areas
- Improvements would allow for ferry expansion to occur in other important corridors
- Ferry expansion would increase overall service reliability

Project Title

Expanded Transbay Ferry Service (Terminal
Locations)

(See Transbay Corridors)

Project Title

Expanded Muni Rapid Bus Corridors

Project Description

Reduce headways and add new express service on select Muni Routes. Key Muni routes improved include: 9, 14, 7, 16, 28, 38, 42, 45, 47 and 49.

Project Background

- Muni has begun a program to improve service reliability.
- Proposed Blueprint project includes several “rapid bus improvements” to improve route seating capacity and improve service reliability.

Proposed Operating Scenario

Most bus improvements involve reducing peak and mid-day headways on existing Muni routes by 2 to 5 minutes. Some new service is added.

Estimated Costs

Capital: \$31.6 million (84 buses) (1999\$)

Total Annual Operating Costs: \$22.3 million (1999\$)

Farebox Recovery Assumed: 33%

Net Annual Operating Cost: \$16.9 million

Observations/Issues

- Extends hours of express service
- Provides enhanced services to outer quadrants of the City to downtown.
- Cost-effective way to improve transit capacity.
- Improves citywide service coverage and transit connections.

Section O

**Transbay
Corridors**

Transbay Corridors

Bay Bridge – Richmond-San Rafael Bridge

- (A)** New Westbound and Eastbound Ramps to I-80(Bay Bridge) from Treasure Island
- (B)** Transbay Transit Service Expansion (AC Transit, GG Transit)
- (C)** Renovated/New Transbay Terminal
- (D)** Rail on the Bay Bridge
- (E)** Expanded Transbay Ferry Service (Terminal Locations)

Not Mapped:

- BART's Advanced Automatic Train Control (AATC) System Completion

San Mateo Bridge – Dumbarton Bridge

- (F)** SR 84 Bayfront Extension from US 101 to SR 82 (El Camino Real)
- (G)** Increased Transbay Bus Service
- (H)** Dumbarton Corridor Rail Service

New Transbay Ferry Services (see **(E)**)

	Interstate Highway
	State Highway
	U.S. Highway
	Freeway
	Other Highway
	Major Arterial
	Airport
	Port
	Ferry Terminal
	Rail Line
	Amtrak Station
	ACE Station
	Caltrain Station
	BART Line/Station



Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

New Westbound and Eastbound Ramps to I-80 (Bay Bridge) from Treasure Island

Project Description

Provide new westbound and eastbound on-ramps with the new Bay Bridge east span project.

Project Background

- The new Bay Bridge East Span project mentions existing Treasure Island access configuration.
- Existing ramps provide limited storage and very short ingress/egress merges
- San Francisco would like to improve ramps to Treasure Island from the Bay Bridge to serve planned new development.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$43.3 million (1999\$) (from Caltrans)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Treasure Island re-use plan is estimated to generate a significant number of work and recreational trips when full build-out is achieved.
- New ramps are not an eligible "amenity" to receive portion of new \$1 bridge toll for seismic retrofit to increase tolls and build new East span of Bay Bridge.
- City of San Francisco is currently in negotiations with Caltrans to add the Treasure Island ramps in the replacement project for the East Span.

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

Expand AC Transit and Golden Gate Transit Transbay Service

Project Description

Provide more frequent service and add mid-day service on several AC Transit Bay Bridge Transbay lines into San Francisco from: Alameda, Hayward, Berkeley, and Emeryville.

Improve Golden Gate Transit service on the Richmond-San Rafael Bridge between San Rafael and El Cerrito Del Norte BART.

Project Background

- AC Transit's Comprehensive Service Plan—a planned restructure and service improvements—has been impeded by fiscal constraints.
- In June 1996 service hours were cut due to projected budget shortfalls.
- The recent BART strike and an improved financial outlook have allowed the District to improve Transbay service.
- The District recently completed a Transbay Comprehensive Service plan that outlines various service options for Transbay operation; a portion of the plan was implemented in 1998, while further changes will be made as funding becomes available.
- Golden Gate Transit's Richmond Bridge service has been up and running the last few years to provide service between Marin County and BART.

Proposed Operating Scenario

Proposed Operating Schedule				
	Current Headways (min)		Proposed Headways (min)	
South/Central Alameda to San Francisco				
AC Transbay	Peak	Mid-Day	Peak	Mid-Day
F	20-45	30	15-30	15
G	30	n/a	30	60
H	45	n/a	30	60
O	10-60	42-45	10-30	30
S	30-45	n/a	15	60
W	15-45	n/a	15-30	60
Y	25	n/a	15	60
Marin to Contra Costa				
GG Transit 40				
	30	30	15	15

Estimated Costs

So/Central Alameda to San Francisco

Capital: \$3.17 million (1999\$) (9 buses)

Total Annual Operating Cost: \$2.08 million (1999\$)

Farebox Recovery Assumed: \$0.52 million (1999\$)

Net Annual Operating Cost: \$1.56 million (1999\$)

Marin to Contra Costa

See *Expansion of Express and Intercity Bus Service on US 101* in the Golden Gate Corridor.

Observations/Issues

- Transbay bus service viewed as superior to BART by those directly served by routes in neighborhoods.
- AC Transit reports that Transbay bus from the Richmond/Albany/ Berkeley received substantial travel time savings due to new I-80 HOVL.
- Other Transbay transit services (bus, ferry, BART) are viewed as both complimentary and competing services.
- Due to slow growth in Marin County, transit ridership across the Richmond Bridge will be low growth over the near term.

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

Renovated/New Transbay Terminal

Project Description

Upgrade or rebuild the existing Transbay Terminal at its current location.

Project Background

- Transbay Transit Terminal and adjoining ramps were completed in 1939 as part of Bay Bridge construction; the Terminal was designed to accommodate East Bay rail services.
- Rail service ended in the late 1950's and the Terminal was revamped for AC Transit and other bus services.
- After 1989 Loma Prieta earthquake, Caltrans (owner/operator) and the City of San Francisco questioned whether to retain and retrofit the existing terminal and ramps or remove them and build a new facility.
- In 1994, the City and Caltrans initiated an evaluation of a new and/or renovated terminal building at the existing site or new facility at a Main/Beale site; at about the same time, Peninsula Joint Powers Board (JPB) began an evaluation of extending Caltrain to downtown San Francisco.
- In 1996, the Board of Supervisors selected the Main/Beale site for the new bus terminal and the JPB chose an underground terminal located underground at the existing Transbay Terminal site.
- Several jurisdictions (AC Transit, JPB, the City, Caltrans and MTC) have been evaluating various Transbay Terminal designs at different sites.

- In 1999, the San Francisco Board of Supervisors passed a resolution in support of maintaining the Transbay Terminal at its current location.
- MTC is currently conducting an evaluation of building a combined bus/train terminal at the current Transbay Terminal site.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$721 million (1999\$) (from Caltrans)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- Desire to build new terminal that serves local land use and transportation needs.
- Land parcels previously viewed as undevelopable due to existing Terminal footprint are being developed due to office development boom in downtown area.
- San Francisco policy currently supports terminal at existing site.
- Transbay terminal included in State legislation as eligible "amenity" to receive portion of new \$1 seismic surcharge build new East Span of Bay Bridge.

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

Bay Bridge Rail Service

Project Description

Provide rail services across the San Francisco - Oakland Bay Bridge.

Project Background

- In November, 1998, the electorates in the cities of Berkeley, Emeryville, Oakland, and San Francisco passed the Bay Bridge passenger rail advisory measures.
- In April, 1999, MTC initiated a study to assess the feasibility of providing rail services on the Bay Bridge. The study is to be completed in December, 1999.
- The on-going study is examining various rail alternatives including light rail, intercity rail, high-speed rail and BART. The study is examining 1) the structural capacity of the west spans, new east spans and Yerba Buena Island to accommodate the rail alternatives, including the seismic impacts of adding rail to the structures; 2) the alignments and station requirements for each of the rail alternatives; 3) the projected ridership levels for the rail alternatives; and 4) the capital and operating costs of a rail system operating across on the Bay Bridge.
- A second phase of the study is anticipated that will examine other options for improving transit services in the Transbay Corridor. These would include the potential of a tube or separate bridge for rail services, expanded express bus service, designating an existing lane for express bus/carpools, and expanding ferry services. This second phase will be incorporated into the Bay Crossing study being conducted by MTC.

Proposed Operating Scenario

Rail service would operate from the Transbay Terminal vicinity in San Francisco across the Bay Bridge to the East Bay.

Estimated Costs

Light Rail Alternative

Bridge Structural Cost: \$3 Billion to \$3.3 Billion (1999\$)

Capital: \$970 Million (1999\$)

Total Annual Operating Cost: \$30.47 million (1999\$)

Farebox Recovery Assumed: \$17.52 million (1999\$)

Net Annual Operating Cost: \$12.95 million (1999\$)

Observations/Issues

- The current bridge rail study is a "first look" feasibility analysis of placing rail on the Bay Bridge structures. A significant amount of follow-up analysis (preliminary engineering, seismic evaluations, etc.) will be required to determine the ability and desirability for placing rail service on the Bay Bridge.
- In April, 2000 the final feasibility study of rail on the Bay Bridge will be released. The costs detailed above apply only to the section of the bridge from the Toll Plaza to the anchorage in San Francisco. Included in the April report will be costs to connect rail on the bridge to the East Bay. Cost estimates will include costs for three different scenarios. The scenarios are light rail, commuter rail, and BART.

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

Transbay Ferry Service

Project Description

Various ferry services have been proposed to expand or implement ferry service in this corridor. The basic ferry routes include:

- Vallejo/S.F. Ferry Terminal
- Alameda/Hunters Point
- Berkeley/SF-Mission Bay/Alameda
- Berkeley/Treasure Island
- Harbor Bay/S.F. Ferry Terminal
- Oakland/Treasure Island
- Oakland Army Base/S.F. Ferry Terminal
- Richmond/S.F. Ferry terminal/South San Francisco
- S.F. Ferry Terminal/Treasure Island
- Oakland Airport/S.F. Ferry Terminal

Project Background

- MTC first adopted its Regional Ferry Plan in 1992. The plan examined 17 potential new ferry services.
- MTC's *Regional Ferry Plan Update* (March 1999) focused mostly on short-term improvements for existing or recommended ferry services. The Plan identified Berkeley/Albany, Benicia Martinez and Port Sonoma to San Francisco as potential services that have promise and should be further evaluated.
- The Bay Area Council's Blue Ribbon Task Force recommended an expansive regional ferry system in its February 1999 report, which included the introduction of new Transbay/Bay Bridge ferry services.
- City of Richmond and Red and White fleet will begin commuter ferry service later this year.
- Cities of Berkeley and Albany have been discussing proposed ferry services.

Proposed Operating Scenario

All proposed Transbay ferry service, would operate every 15-30 minutes during the peak commute period and 30-60 minutes during the off-peak.

Estimated Costs

Capital:

(costs from Bay Area Council Report)

Routes/Stops	Cost (millions)*
Vallejo/S.F. Ferry Terminal	\$72.2
Alameda/Hunters Point	\$14.1
Berkeley/SF-Mission Bay/Alameda	\$22.4
Berkeley/Treasure Island	\$7
Harbor Bay/S.F. Ferry Terminal	\$15
Oakland/Treasure Island	\$7
Oakland Army Base/SF Ferry Terminal	\$8.4
Richmond/S.F. Ferry terminal/South San Francisco	\$22
S.F. Ferry Terminal/Treasure Island	\$9
Oakland Airport/S.F. Ferry Terminal	\$21

* Includes feeder bus costs

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Total Annual Operating Cost:

Route	Total Cost* (millions)	Farebox Recovery Assumed	Net Cost* (millions)
Vallejo/S.F. Ferry Terminal	\$13.4	18%	\$11.0
Alameda/Hunters Point	\$8.0	16%	\$6.7
Berkeley/SF-Mission Bay/Alameda	\$11.6	28%	\$8.4
Berkeley/Treasure Island	\$3.1	29%	\$2.2
Harbor Bay/ S.F. Ferry Terminal	\$7.9	15%	\$6.7
Oakland/Treasure Island	\$3.1	29%	\$2.2
Oakland Army Base/SF Ferry Terminal	\$2.7	22%	\$2.1
Richmond/S.F. Ferry Terminal/South San Francisco	\$8.5	19%	\$6.9
S.F. Ferry Terminal/Treasure Island	\$3.3	53%	\$2.8
Oakland Airport/ S.F. Ferry Terminal	\$8.1	137%	\$3.3 Surplus

* Includes feeder bus costs

Observations/Issues

- Treasure Island service could hold potential once Treasure Island redevelopment occurs.
- Ferry service would still require feeder bus service to/from employment centers, which could reduce its attractiveness.
- Berkeley ferry service had limited success during Loma Prieta earthquake, but more frequent service could attract better ridership.
- Transbay/Bay Bridge already has very high transit mode split during a.m. peak
- Transbay bus versus ferry markets needs more analysis (are services complimentary or competing?)

Transbay Corridors

Bay Bridge - Richmond-San Rafael Bridge

Project Title

Complete BART's Advanced Automatic Train Control (AATC) System

Project Description

Complete the automated train control system upgrade currently underway.

Project Background

- BART is currently in the process of upgrading its 30-year old train control system.
- Upgrades between Bayfair and Daly City are funded and currently underway; when completed, BART will be able to increase service from 21 trains per hour to 30 trains per hour (from 2.7 minute headways to 2 minute headways).
- Additional trains will increase peak hour train capacity through the Transbay tube
- BART's capital improvement plan calls for installation of AATC on the rest of the system, which is the Blueprint "project".

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$279.13 million (1999\$) (from BART's 1998 SRTP)

Total Annual Operating Cost: N/A

Farebox Recovery Assumed: N/A

Net Annual Operating Cost: N/A

Observations/Issues

- AATC would allow more trains to operate during peak hours, which would increase overall system capacity.
- System upgrade would likely reduce train control breakdowns and improve system reliability.
- Expansion of rail transit service already in existence would minimize environmental impacts of building new systems.

Transbay Corridors

San Mateo Bridge - Dumbarton Bridge

Project Title

Complete Route 84 Bayfront Extension from Woodside Rd/101 Interchange to El Camino Real

Project Description

Complete the RTP Track 1 project, which extends the Bayfront Expressway from Marsh Road to Woodside Road (2 lanes each direction), and further extend along Woodside Road (Route 84) to El Camino Real.

Project Background

- San Mateo County Transportation Expenditure Plan included funds to extend the Bayfront Expressway from Marsh Road to Woodside Road and improve the connection to El Camino from Woodside Road.
- The San County Transportation Authority (SMCTA) has completed a Project Study Report for the project.

Proposed Operating Scenario

N/A

Estimated Costs

Capital: \$60 to \$85 million (1999\$) (from SMCTA)
Total Annual Operating Cost: N/A
Farebox Recovery Assumed: N/A
Net Annual Operating Cost: N/A

Observations/Issues

- Several cities have expressed concern about widening the existing Bayfront Expressway from 4 to 6 lanes between the Dumbarton Bridge and Marsh Road (Regional Measure 1 project) due to concerns about traffic loading up the newly modified Marsh Road interchange without the Bayfront Extension.
- Bayfront Extension may impinge on wetland areas.
- Project will provide alternative to US 101 between Marsh Road and Woodside Road.
- City of Redwood City supports because project will improve access to local streets and businesses.

Transbay Corridors

San Mateo Bridge - Dumbarton Bridge

Project Title

Increase San Mateo and Dumbarton Bridge Bus Service

Project Description

Increase existing Dumbarton bus service and restore/expand SamTrans bus service on the San Mateo Bridge.

Project Background

- A consortium of transit operators provides current Dumbarton bus service.
- Additional Dumbarton bus service was recently added between the East Bay and Menlo Park/Palo Alto Caltrain station.
- SamTrans 90E service over the San Mateo Bridge was recently eliminated.

Proposed Operating Scenario

	Current Headways (minutes)		Proposed Headways (minutes)	
	Peak	Mid-Day	Peak	Mid-Day
East Bay to Central San Mateo				
SamTrans 90E	n/a	n/a	15	60
Dumbarton Express				
DB/DB1	30-60	90	15-30	30

Estimated Costs

East Bay to Central San Mateo

Capital: \$3.87 million (1999\$) (11 buses)

Total Annual Operating Cost: \$3.19 million (1999\$)

Farebox Recovery Assumed: \$0.88 million (1999\$)

Net Annual Operating Cost: \$2.31 million (1999\$)

Dumbarton Express

Capital: \$2.46 million (1999\$) (7 buses)

Total Annual Operating Cost: \$1.07 million (1999\$)

Farebox Recovery Assumed: \$0.48 million (1999\$)

Net Annual Operating Cost: \$0.56million (1999\$)

Observations/Issues

- Bus service provides more flexibility in providing service from home to employment centers
- Bus service uses existing infrastructure (e.g. HOV lanes, toll plaza bypass)
- Significantly less to build and operate
- Dumbarton rail line currently in public ownership
- Bus service likely most feasible near term transit alternative in corridor due to cost and other environmental issues

Transbay Corridors

San Mateo Bridge - Dumbarton Bridge

Project Title

Dumbarton Corridor Rail Service

Project Description

Provide rail service between the East Bay and Caltrain on the Peninsula.

Project Background

- In 1991 the San Mateo County Transportation Authority (SMCTA) sponsored a study to evaluate the feasibility of operating rail commute service in the corridor; the study concluded that service was not feasible in the short-term and should be considered in a longer-term regional rail strategy.
- SMCTA purchased the Dumbarton rail line between Redwood and Newark Junctions in 1994.
- In 1997 the SMCTA completed a subsequent evaluation of Dumbarton rail service in coordination with other regional rail links; the study generally came to the same conclusions as the 1991 study and recommended that bus service be expanded as a short-term strategy (which led to the addition of the DB1 bus service).
- The SMCTA recently commissioned another evaluation of alternative rail service evaluations for Dumbarton rail service.
- The 2000 Alameda County Measure B Reauthorization Plan (sales tax) to be voted on in November 2000 includes \$14.7 million in funds for improvements to the Dumbarton Corridor; however, full funding for the operations and capital costs of a rail connection would need to be secured before Measure B funds would be spent to implement the rail project. (Measure B did not pass in 1998.)
- SMCTA has identified funds in the amount of \$60.0 million for their contribution to rehabilitation of the rail line plus \$8.5 million from Alameda County for inter-modal Union City BART Station.

Proposed Operating Scenario

The currently proposed service in SMCTA's latest report recommends the following:
12-weekday trains; 3 round trips between Union City and Millbrae and 3 round trips between Union City and San Jose (Diridon)

Estimated Costs

Capital: \$129 million (1999\$) (from SMCTA)
Total Annual Operating Cost: \$5.3 million (1999\$)
Farebox Recovery Assumed: \$0.9 million to \$1.4 million (1999\$)
Net Annual Operating Cost: \$3.9 million to \$4.4 million (1999\$)

Observations/Issues

- A Task Force made up of elected officials and business representatives have been meeting to develop a Dumbarton rail implementation plan.
- Based on travel forecasts, rail transit times are not competitive with auto times and therefore projected rail transit ridership has been low.
- Rail service defined by SMCTA's latest study has potential to more fully utilize Caltrain line and provide more service flexibility for Caltrain riders.
- Cost-effectiveness of proposed rail service appears low.
- Rail corridor already in public ownership.

Transbay Corridors

San Mateo Bridge - Dumbarton Bridge

Project Title

New Transbay Corridor Ferry Services: San Leandro/Redwood City and San Leandro/Moffett Field

Project Description

The Bay Area Council identified two potential ferry services linking the East Bay to the Peninsula:

- San Leandro/Redwood City
- San Leandro/Moffett Field

Project Background

- MTC first adopted its Bay Area Regional Ferry Plan in 1992. The plan examined 17 potential new ferry service routes, including Redwood City/San Leandro and South San Francisco/San Leandro. These routes were not recommended due to low projected ridership and high implementation costs.
- MTC's *Regional Ferry Plan Update* (March 1999) focused mostly on short-term improvements for existing or recommended ferry services.
- The Bay Area Council's Blue Ribbon Task Force recommended an expansive regional ferry system in its February 1999 report, which included the introduction of new East Bay/Peninsula ferry service.

Proposed Operating Scenario

Proposed Peninsula ferry service would be as follows:

Routes/Stops	Peak Headway	Off-Peak Headway
San Leandro/Redwood City	30 min.	60 min
San Leandro/Moffett Field	30 min.	60 min

Estimated Costs

Capital:

(from Bay Area Council Report)

Routes/Stops	Cost (millions)*
San Leandro/Redwood City	\$14.7
San Leandro/ Moffett Field	\$19.4

* Includes feeder bus costs

Total Annual Operating Costs:

Routes/Stops	Total Cost* (millions)	Farebox Recovery Assumed	Net Cost* (millions)
San Leandro/Redwood City	\$9.0	13%	\$7.8
San Leandro/Moffett Field	\$9.1	21%	\$7.2

* Includes feeder bus costs

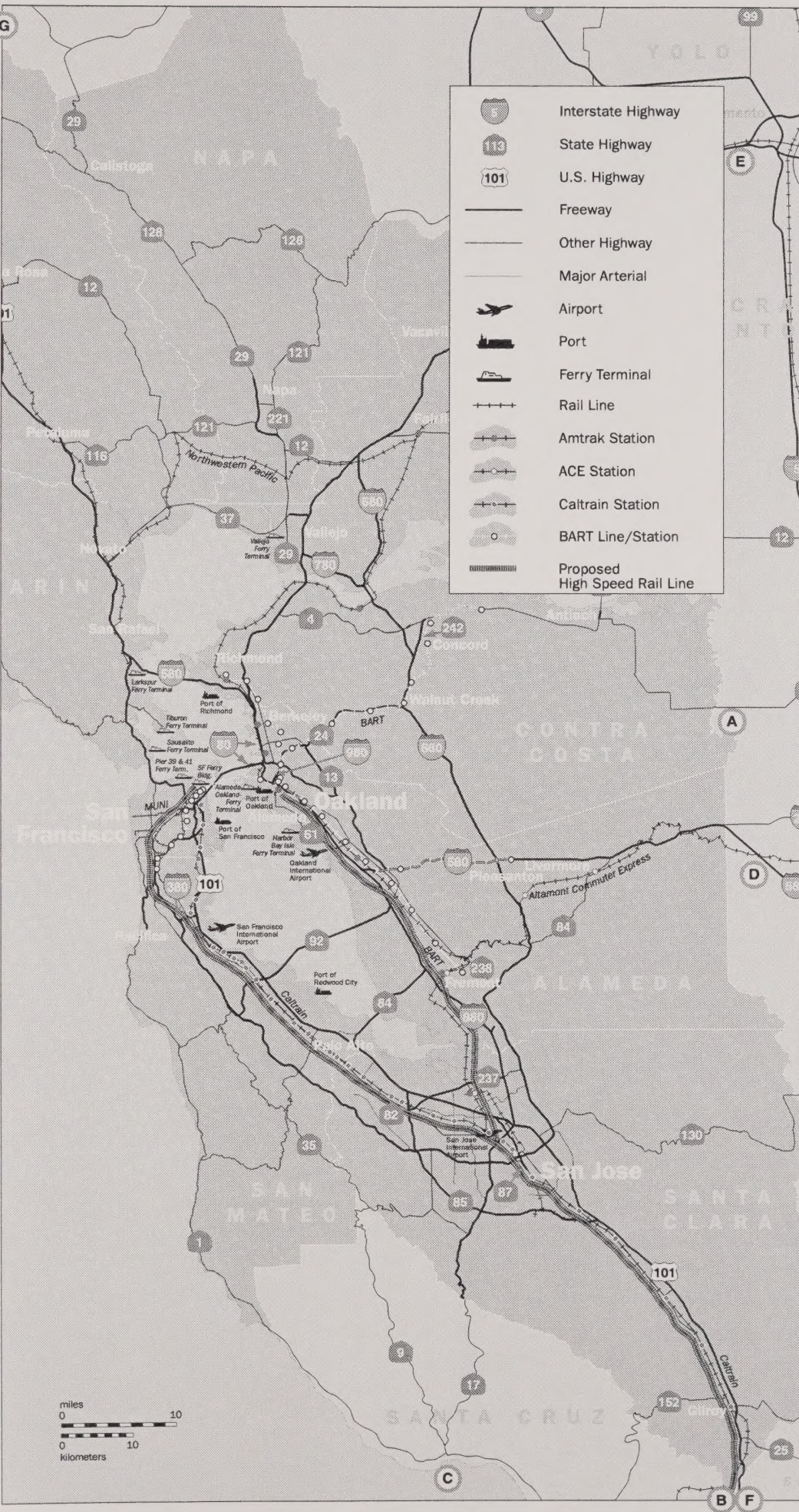
Observations/Issues

- Would best serve office and residential development close to the Bay.
- Would serve growing employment on the Peninsula east of US 101.
- Land side access at Moffett Field may impact environmentally sensitive areas.
- Port of Redwood City supports some level of ferry service to their respective jurisdictions.
- Due to inaccessibility and access issues, ferry service will not be able to adequately serve the high employment markets in Silicon Valley.

Section P

**Gateways
To Other
Regions**

Gateways to Other Regions— Interregional Projects



- A** SR 239 (see State Route 4 Corridor)
- B** Caltrain to Hollister/Salinas/ Monterey (see Santa Clara Valley Subarea)
- C** Express Bus to Santa Cruz (see Santa Clara Valley Subarea)
- D** Increased ACE Commuter Rail Service (see I-680 South Corridor)
- E** Increased Capitols Intercity Rail Service to Sacramento (see I-80 Corridor)
- F** Route 152 to Central Valley (see Santa Clara Valley Subarea)
- G** Northwest Pacific (NWP) Commuter Rail to Mendocino (see Golden Gate Corridor)

Section Q

Appendix A

**List of
Blueprint
Candidate
Projects
By Corridor**

Appendix A

List of Blueprint Candidate Projects

San Francisco Bay Region

System Operation and Maintenance

- BART Car Replacement
- Muni Capital Program
- Strategic Replacement and Upgrade of the GGBHTD Information System
- Upgrade to Mare Island Ferry Maintenance Facility and Fuel Farm
- Transit Operating Shortfalls
- Local Street Pavement, Non Pavement, and Bridge Maintenance Shortfalls

System Management

- Freeway Traffic Operations Systems (TOS)
- MTS Arterial Signal System Upgrade
- Intelligent Transportation Systems (ITS) Regional Integration

Seismic Preparedness

- BART Seismic Retrofit Program
- Golden Gate Seismic Retrofit Phase II and III
- Local Bridge Seismic Strengthening
- Emergency "Contingency" Budget for Major Earthquake/Disaster

Life Line Transit

- 24 Hour Life Line Transit Services
- Transit Subsidies for Low Income Persons
- Transit Service Gap Improvements
- Enhanced Paratransit Services
- School Bus Service Program

Customer Services

- TransLink®
- TravInfo®
- Freeway Service Patrol
- Call Box Program
- Regional Transit Trip Planning and Transit Information Web Page Systems
- Regional Rideshare Program

Bicycle and Pedestrian Facilities

- San Francisco Bay Trail Gap Segments
- San Francisco Bay Trail Bridge Segments
- East Bay Regional Trail Gap Segments
- Local Bicycle and Pedestrian Facilities - Regionwide

Railroad Right-of-Way Preservation

- Railroad Right-of-Way Preservation

Transportation for Livable Communities Program

- Transportation for Livable Communities Program

* This project is included in the 1998 Regional Transportation Plan Track 1.

Appendix A

List of Blueprint Candidate Projects

Golden Gate Corridor

- Complete the US 101 Ultimate Gap Closure Project (North San Pedro Road to Lucky Drive)
- New HOV Lanes and Interchange Improvements on US 101 in Sonoma Co.*
- New HOV Lane(s) on US 101—Atherton to SR 116 East Petaluma*
- Golden Gate Bridge Moveable Median Barrier
- Golden Gate Bridge Toll Plaza Bus Stop Relocation
- Commuter Rail Service from Cloverdale/Healdsburg to San Rafael/Larkspur
- Golden Gate Bridge Under-deck Rehabilitation
- Golden Gate Bridge Maintenance Facility Relocation
- Improvements to Ferry Service from Larkspur to San Francisco
- Golden Gate Ferry Larkspur Terminal Facility Expansion
- Improvements to Ferry Service: Sausalito to San Francisco
- Expanded Ferry Service: Tiburon to Tiburon to San Francisco
- New Ferry Service: Port Sonoma to San Francisco
- Construct New and Expand Existing Park-and-Ride Lots along US 101
- Expansion of Express and Intercity Bus Service on US 101
- Improved Access to National Park Sites in Marin County
- Expansion of Bus Service in Santa Rosa

North Bay East-West Corridor

- Low-Scale TOS on State Route 116 and State Route 121
- Park-and-Ride Lots (SR 116 near SR 121, SR 29 near SR 12/29, SR 121 at SR 29)
- Intersection Improvement—SR 12/29 at SR 121
- Intersection Improvement—SR 12/29 at Airport Rd.
- Safety improvements on SR 121*
- Safety Improvements on Lakeville Hwy—Shoulder Widening
- SR 12 Improvements between I-80 and Rio Vista Bridge
- Widen SR 12 from SR 29 to I-80 (Jamieson Canyon)*
- SR 37 Widening with Environmental Improvements
- SR 116 Realignment between Sonoma to Petaluma*
- New Express Bus Service from Napa County to Solano County via SR 12

Napa Valley Subarea

- Widening of SR 29 from SR 221 to SR 29/12/Airport Rd.
- Extension of Flosden Rd. from American Canyon Rd. to Kelly. Realignment and Signalization of American Canyon Rd./Flosden Intersection
- SR 29/Trancas Street/Redwood Road Interchange Shortfall
- Increase Express Bus Service to BART Link/Vallejo Ferry

* This project is included in the 1998 Regional Transportation Plan Track 1.

Appendix A

List of Blueprint Candidate Projects

Interstate 80 Corridor

- I-80 Interchange Improvements: I-80/Highway 4, I-80/San Pablo Dam Rd., I-80/Cummings Skyway
- Interchange Improvements and possibly HOV on I-80 between Carquinez Bridge and Highway 37
- Richmond Parkway: Grade-Separated Interchange at San Pablo Avenue
- San Pablo Dam Road Improvements
- I-80 Widening between Vacaville and Dixon
- I-80/I-680/SR 12 Interchange Improvements
- Express Bus Service from Solano County to East Bay (I-80)*
- Enhanced Transit Service in San Pablo Ave./Telegraph Ave. Corridors
- Capitol Corridor Upgrade
- BART Extension to Hilltop Mall or Pinole Vista/Pinole Shores
- BART Extension to Hercules
- Enhanced Vallejo Ferry Service
- Intermodal Facilities at Vallejo Ferry Terminal
- New Ferry Service from Berkeley/Albany
- New Ferry Service from Martinez/Benicia
- New Ferry Service from Richmond
- Light Rail on the Carquinez Replacement Bridge
- I-80 Northbound HOV Lane Extension (SR 4 to Carquinez Bridge)*
- Solano County Bus Service
- West Contra Costa County Intercity Bus Service
- Improved Bus Service on San Pablo Dam Road

State Route 4 Corridor

- SR 239 Connection—Brentwood to Tracy (Byron Highway)
- SR 4 Interchange Improvements
- Widening of SR 4 East Corridor
- Widening of State Route 4 Bypass to four lanes from Route 160 to Walnut Blvd. and construction of new grade separations and interchanges along the State Route 4 Bypass*
- Widening of SR 4 from I-680 to SR 242
- Truck Climbing Lanes on Kirker Pass Road
- Pittsburg/Bay Point BART Station Parking Expansion
- BART Extension to Railroad Avenue in Pittsburg
- BART Extension to Hillcrest Ave. in Antioch
- Ferry Service from Antioch
- Express Bus Service in SR 4 and I-680 HOV Lanes (East County to Pittsburg/Bay Point BART Station and Tri-Valley)
- Subscription Bus Service on Vasco Road—Brentwood/Antioch to Tri-Valley
- Commuter Rail—Brentwood to Bay Point
- ACE Branch Line—Brentwood to Tracy

* This project is included in the 1998 Regional Transportation Plan Track 1.

Appendix A

List of Blueprint Candidate Projects

Interstate 680 North Corridor

- Interchange Reconstruction - I-680/SR 4
- Interchange Improvements - I-680/El Pintado Road + others
- Widening of I-680 from Benicia Bridge to I-80
- Auxiliary Lanes along I-680 between I-580 and SR 24*
- Realignment of Taylor Blvd. and Pleasant Hill Rd.
- Construction of Caldecott Tunnel Fourth Bore
- Express Bus Service—Solano County to Contra Costa County via I-680
- Employee Shuttles to and from Walnut Creek BART Station
- Subscription Bus Service through Caldecott Tunnel
- Express Bus Service in Central Contra Costa County
- Light Rail on Benicia Bridge
- Additional BART parking in I-680/SR 24 Corridor
- Freeway-to-Freeway Connector Improvements: Westbound SR 4 to Southbound SR 242, Southbound SR 242 to Southbound I-680, and Westbound SR 4 to Southbound I-680

Interstate 580 Corridor

- New HOV Lanes—Tassajara Rd./Santa Rita Road to Vasco Rd.
- Westbound Truck Climbing Lane through Altamont Pass
- New West Dublin BART Station
- BART Extension to Livermore
- Enhanced Rapid Bus Service in Tri-Valley Area (I-580)
- Truck Bypass Lanes on I-238 through the I-580/I-238 Interchange
- I-580/I-680 Interchange Improvements (WB I-580 to SB I-680)

Interstate 680 South Corridor

- New I-580/SR 84 Interchange
- SR 84 Expressway (I-580/I-680 Bypass)
- I-880/I-680 Cross Connector (alignment TBD)
- I-680 HOV Lanes: Contra Costa County Line to SR 84
- I-680 Sunol Grade Northbound HOV Lane*
- Sustain and Enhance ACE Service*
- Express Bus Service (Tri-Valley to Silicon Valley)
- Expand LAVTA Subscription Bus Service (Tri-Valley to Northern Santa Clara County)*

Interstate 880 Corridor

- Interchange Improvements
 - I-880/Broadway/Jackson*
 - I-880/Winton Ave.
 - I-880/A Street
 - SR 92/Clawiter Rd.
 - Mission/Foothill/Jackson
- Union Pacific RR Grade Separation on Union City Blvd.
- I-880 HOV Lanes from Hacienda to 98th Ave.
- Union City Intermodal Station (Phase II)
- Oakland Airport BART Connector
- West Oakland Truck Parking Area
- Enhanced Rapid Bus Service (Intra Oakland-Berkeley)
- Enhanced Rapid Bus Service (Hayward/San Leandro to Oakland/Berkeley)
- Enhanced Rapid Bus Service (South Alameda to Silicon Valley)

* This project is included in the 1998 Regional Transportation Plan Track 1.

Appendix A

List of Blueprint Candidate Projects

Fremont South-Bay Corridor

- Slip Ramp—I-880/Stevenson Blvd.
- Interchange Improvements—I-880/SR 237*
- I-880 Widening (2 HOV lanes)—SR 237 to Montague Expressway
- I-880 Widening (2 HOV lanes)—Montague Expressway. to US 101
- BART Extensions: Fremont to Warm Springs, Warm Springs to Tasman, and Tasman to Downtown San Jose
- Interim VTA Commuter Rail Service—Union City to Downtown San Jose*
- Expanded VTA Commuter Rail Service—Union City to Downtown San Jose and ultimately to Gilroy
- VTA Light Rail Extension—Tasman to Warm Springs, Fremont or Union City BART Station
- Expand Express Bus Service from Fremont BART Station to Santa Clara County Destinations
- Rapid Bus Service (San Joaquin Co., Tri-Valley, Fremont, Hayward to Santa Clara County)
- Capitol Corridor Commuter Rail from Oakland to San Jose

Santa Clara Valley Subarea

- SR 85/US 101 HOV Direct Connectors—Mountain View
- SR 85/US 101 HOV Direct Connectors and Mixed Flow Direct Connector Ramps—San Jose
- I-880/Coleman Ave. Interchange Improvement
- Vasona LRT: Campbell (Downtown) to Winchester Station
- Civic Center LRT Extension
- East Valley LRT: Evergreen Area to Downtown San Jose (alignment TBD)
- Caltrain Service Expansion—San Jose to Gilroy*
- San Jose Airport Rail Connector (Guadalupe LRT, Santa Clara Caltrain Station, and San Jose International Airport)
- Upgrade SR 152 to Expressway
- US 101 Widening from 6 to 8 lanes (includes 2 HOV lanes) from Bernal Rd. to Cochrane Rd. in Morgan Hill
- US 101 Widening (2 HOV lanes) from Cochrane Rd. in Morgan Hill to SR 25
- Extension of Santa Teresa Blvd. from Masten Ave. to Bloomfield Ave. in Gilroy
- SR 237 Widening (2 HOV lanes) from US 101 to SR 85
- SR 85 Widening from 6 to 8 lanes from I-280 to Fremont Ave.
- Expanded VTA Bus Service
- New and Enhanced Rapid Bus Service (Intra Santa Clara County)
- Montague Expressway Interchange Improvements*
- Countywide Freeway Interchange Upgrades
- Countywide Freeway and Expressway Auxiliary Lanes
- Measure A Rail Projects*
- Countywide Roadway Connections and Freeway/Creek Overcrossings
- Silicon Valley ITS and SMART Corridor Additions*

Peninsula Corridor

- US 101 Auxiliary Lanes
- US 101 Interchange Modifications
- Widen Route 92 between US 101 and I-280 from 4 to 6 Lanes
- Improve Connection from Eastbound Route 1 to Southbound I-280 and Serramonte Boulevard
- Caltrain San Francisco Downtown Extension
- Airport Light Rail System (ALRS) Connection to Caltrain
- New Peninsula Corridor Ferry Services (Terminal Locations)
- Devil's Slide Tunnel*
- Caltrain Grade Separations
- Enhanced Express Bus Service
- Caltrain Electrification
- Caltrain Mass Transit Service (All Day, More Frequent Service)
- Caltrain Rapid Rail Improvements

* This project is included in the 1998 Regional Transportation Plan Track 1.

Appendix A

List of Blueprint Candidate Projects

San Francisco Subarea

- Doyle Drive Replacement*
- Extension of Electric Trolley Bus Routes
- New 30th/Mission BART Station
- Fixed Guideway Routes: Geary Corridor, North Beach Corridor, Van Ness Corridor
- 3rd Street Light Rail Transit (LRT) Extension in Chinatown
- Caltrain San Francisco Downtown Extension (see Peninsula Corridor)
- Ferry Landside Expansion
- Expanded Transbay Ferry Service (Terminal Locations)
- Expanded MUNI Rapid Bus Corridors

Transbay Corridors

- New Westbound and Eastbound Ramps to I-80 (Bay Bridge) from Treasure Island
- Expand AC Transit and Golden Gate Transit Transbay Service
- Renovated/New Transbay Terminal
- Bay Bridge Rail Service
- Transbay Ferry Service
- BART's Advanced Automatic Train Control (AATC) System Completion
- Route 84 Bayfront Extension from Woodside Rd/101 Interchange to El Camino Real
- Increase San Mateo and Dumbarton Bridge Bus Service
- Dumbarton Corridor Rail Service
- New Transbay Corridor Ferry Services: San Leandro/Redwood City and San Leandro/Moffett Field

Gateways to Other Regions - Interregional Projects

- SR 239 (See State Route 4 Corridor)
- Caltrain to Hollister/Salinas/Monterey (See Santa Clara Valley Subarea)
- Express Bus to Santa Cruz (See Santa Clara Valley Subarea)
- Increased ACE Commuter Rail Service (See I-680 South Corridor)
- Increased Capitols Intercity Rail Service to Sacramento (See I-80 Corridor)
- Route 152 to Central Valley (See Santa Clara Valley Subarea)
- Northwest Pacific (NWP) Commuter Rail to Mendocino (See Golden Gate Corridor)

* This project is included in the 1998 Regional Transportation Plan Track 1.

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